



CURRICULUM VITAE ABREVIADO (CVA)

IMPORTANT – *The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.*

Part A. PERSONAL INFORMATION

First name	Josep Àlvar		
Family name	Calduch Giner		
Gender (*)	Male	Birth date (dd/mm/yyyy)	15/10/1970
Social Security, Passport, ID number	18976918D		
e-mail	j.calduch@csic.es	URL Web	https://www.nutrigroup-iats.org/
Open Researcher and Contributor ID (ORCID) (*)	0000-0003-3124-5986		

(*) *Mandatory*

A.1. Current position

Position	Tenured Scientist (Científico Titular de OPIs)		
Initial date	07/07/2006		
Institution	Agencia Estatal Consejo Superior de Investigaciones Científicas		
Department/Center	Instituto de Acuicultura Torre de la Sal		
Country	Spain	Teleph. number	964187467
Key words	Aquaculture, Physiology, Growth, Functional genomics, Behaviour		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2004-2006	Ramón y Cajal Contract/ Agencia Estatal Consejo Superior de Investigaciones Científicas/ Spain
2003	I3P Contract/ Agencia Estatal Consejo Superior de Investigaciones Científicas/ Spain
2001-2002	Postdoctoral fellow/ Agencia Estatal Consejo Superior de Investigaciones Científicas/ Spain
1998-2000	Postdoctoral fellow/ Rennes University/France

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Degree in Biological Sciences	University of Valencia	1993
Ph D in Biological Sciences	University of Valencia	1998

Part B. CV SUMMARY

Dr Josep Calduch-Giner is a member of the Nutrigenomics and Fish Endocrinology Group of IATS (Nutrigroup-IATS, scored as A-excellent in the last in the CSIC group evaluations; 2008-2012, 2013-2016) since 2001. After a post-doctoral stay in Rennes University (1998-2000) funded by Ministerio de Educación y Cultura, he continued his research at Nutrigroup-IATS under different contracts: post-doctoral contract of Ministerio de Ciencia y Tecnología (2001-2002), CSIC I3P contract (2003), and a **Ramón y Cajal contract** (2004-2006), and was appointed as a CSIC Tenured Researcher (Científico Titular) in 2006. His work has focused on the development and management of molecular and biotechnological tools to assess the physiological mechanisms of fish growth and welfare, and the validation of farming and feeding strategies based on the use of alternative sustainable raw materials for fish feeds. The ultimate goal of these activities is the sustainable development of aquaculture and the efficient generation of high quality products from a nutritional and food safety point of view. This work is mainly focused on gilthead sea bream and sea bass, although it has also addressed comparative studies in other marine and freshwater species (dentex, turbot, sole, rainbow trout, Atlantic salmon). To achieve these objectives, a relevant group milestone has been the sequencing and assembly of the **first draft genome of gilthead sea bream**. These approaches have led to the design and construction of a transcriptomic and genomic database



of gilthead sea bream (www.nutrigroup-iats.org/seabreamdb), as well as a transcriptomic database of sea bass (www.nutrigroup-iats.org/seabassdb), which constitutes at present the basis for analysis tools for massive gene expression (PCR-arrays, microarrays, RNA-seq), as well as the identification and characterization of biomarkers for traits of interest in aquaculture. Monitoring of fish behaviour is another field of interest as a part of the welfare assessment of cultured fish, and he participated in the design and validation of patented AEFishBIT (included as part of the 2024 CSIC Technologies to be Promoted Catalogue), a small datalogger attached to fish operculum for the simultaneous and accurate monitoring of breathing and activity rates. This activity has resulted in more than 115 SCI publications (Scopus h-index: 39; Google Scholar h-index: 43), most of them (74%, Scopus) classified in the first quartile (Q1) of impact of different disciplines. Of note, in the **period 2014-2023 he averages 7.3 SCI publications per year.**

In addition to his work in National projects and industry contracts, he has a long and fruitful experience in European Projects from V (PEPPA), VI (AQUAFIRST, AQUAMAX), VII (ARRAINA, AQUAEXCEL) Framework Programmes, as well as in finished and undergoing **H2020 Projects** (AQUAEXCEL²⁰²⁰, PARAFISHCONTROL, PERFORMFISH, GAIN, AqualMPACT, AQUAEXCEL3.0). Noteworthy, he was the **CSIC infrastructures manager** for transnational accesses (TNAs) of EU Project AQUAEXCEL²⁰²⁰ and has extended this task in the present AQUAEXCEL3.0 and the upcoming AQUASERV project.

Regarding research management, he has been a member of the IATS Welfare committee (2007-2019), and is the current head of the Biology, Culture and Pathology Department of IATS-CSIC since 2018. He has also participated in the organization of scientific congresses, training courses and workshops. He is a lecturer of Máster Interuniversitario en Acuicultura (Universidad de Valencia) since 2006.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications

- Calduch-Giner J (1/9)**, Rosell-Moll E, Besson M...Pérez-Sánchez J. Changes in transcriptomic and behavioural traits in activity and ventilation rates associated with divergent individual feed efficiency in gilthead sea bream (*Sparus aurata*). *Aquaculture Reports* 29, 101476 (2023). doi:10.1016/j.aqrep.2023.101476
- Naya-Català F, Piazzon MC, **Calduch-Giner JA (3/5)**, Sitjà-Bobadilla A, Pérez-Sánchez J. Diet and host genetics drive the bacterial and fungal intestinal metatranscriptome of gilthead sea bream. *Frontiers in Microbiology* 13:883738 (2022). doi:10.3389/fmicb.2022.883738
- Calduch-Giner J (1/15)**, Holhorea PG, Ferrer MÁ...Pérez-Sánchez J. Revising the impact and prospects of activity and ventilation rate bio-loggers for tracking welfare and fish-environment interactions in salmonids and Mediterranean farmed fish. *Frontiers in Marine Science* 9:854888 (2022). doi: 10.3389/fmars.2022.854888
- Pérez-Sánchez J, Naya-Català F, Soriano B...**Calduch-Giner JA (9/9)**. Genome sequencing and transcriptome analysis reveal recent species-specific gene duplications in the plastic gilthead sea bream (*Sparus aurata*). *Frontiers in Marine Science* 6: 760 (2019). doi: 10.3389/fmars.2019.00760
- Pérez-Sánchez J, Simó-Mirabet P, Naya-Català F...**Calduch-Giner JA (8/8)**. Somatotropic axis regulation unravels the differential effects of nutritional and environmental factors in growth performance of marine farmed fishes. *Frontiers in Endocrinology* 9:687 (2018). doi: 10.3389/fendo.2018.00687
- Forner-Piquer I, Mylonas CC, **Calduch-Giner JA (3/10)**...Carnevali O. Endocrine disruptors in the diet of male *Sparus aurata*: Modulation of the endocannabinoid system at the hepatic and central level by Di-isononylphthalate and Bisphenol A. *Environmental International* 119: 54-65 (2018). doi: 10.1016/j.envint.2018.06.011
- Piazzon MC, **Calduch-Giner JA (2/10)**, Fouz B...Pérez-Sánchez J. Under Control: how a dietary additive can restore the gut microbiome and proteomic profile, and improve disease resilience in a marine teleostean fish fed vegetable diets. *Microbiome* 5:164 (2017). doi: 10.1186/s40168-017-0390-3
- Benedito-Palos L, Ballester-Lozano GF, Simó P, Karalazos V, Ortiz A, **Calduch-Giner JA (6/7)**, Pérez-Sánchez, J. Lasting effects of butyrate and low FM/FO diets on growth performance, blood haematology/biochemistry and molecular growth-related markers in



gilthead sea bream (*Sparus aurata*). *Aquaculture* 454: 8-18 (2016). doi:10.1016/j.aquaculture.2015.12.008

- Calduch-Giner JA (1/3), Sitjà-Bobadilla A, Pérez-Sánchez J. Gene expression profiling reveals functional specialization along the intestinal tract of a carnivorous teleostean fish (*Dicentrarchus labrax*). *Frontiers in Physiology* 7: 359 (2016). doi: 10.3389/fphys.2016.00359
- Calduch-Giner JA (1/7), Echasseriau Y, Crespo D, Baron D, Planas JV, Prunet P, Pérez-Sánchez J. Transcriptional assessment by microarray analysis and large-scale meta-analysis of the metabolic capacity of cardiac and skeletal muscle tissues to cope with reduced nutrient availability in gilthead sea bream (*Sparus aurata* L.). *Marine Biotechnology* 16:423–435 (2014). doi: 10.1007/s10126-014-9562-3

C.2. Congress

- Calduch-Giner J, Holhorea PG, Pérez-Sánchez J. AEFishBIT: A Smart Device for Monitoring Fish Health and Welfare. FAO Workshop "Sustainable approaches to inland aquaculture and fisheries – advances in novel technologies". November 7-10 2022, Vodňany, Czech Republic. Invited Conference.
- Ruiz-Hernández A, Andree KB, Furones D, Holhorea PG, Calduch-Giner J, Morais S, Viñas M, Pérez-Sánchez J, Gisbert E. Effect of dietary bile salts supplementation on gut microbiota and intestinal immune response in gilthead seabream. 2nd International Symposium Mucosal Health in Aquaculture (MHA). October 3-6 2022, Madrid (Spain). Invited Conference.
- Pérez-Sánchez J, Naya-Català F, Soriano B, Piazzon MC, Hafez A, Gabaldón T, Llorens C, Sitjà-Bobadilla A, Calduch-Giner JA. THE GENOME SIZE OF GILTHEAD SEA BREAM (*Sparus aurata*) REVEALS NOVEL FISH INSIGHTS IN GENE DUPLICATION EVENTS. AIEC 2019 - XII Conference of the Iberian Association for Comparative Endocrinology. September 26-28 2019. Oral Communication (Conference Best Oral Award)
- Pérez-Sánchez J, Calduch-Giner JA, Simó-Mirabet P. Updates on the cross talk between growth, endocrine factors, nutrients and environmental factors in marine farmed fish. 29th Conference of European Comparative Endocrinologists. August 19-22 2018, Glasgow (UK). Invited Conference.
- Calduch-Giner J, Sitjà-Bobadilla A, Pérez-Sánchez J. Functional plasticity of the intestine of Mediterranean farmed fish to cope with environmental and nutritional stressors. 8th International Symposium on Fish Endocrinology. June 26-July 2 2016, Goteborg (Sweden). Invited Conference.

C.3. Research projects

- AQUASERV, Research infrastructure services for sustainable aquaculture, fisheries and the blue economy (2024-2029); FUNDING: UE, HORIZON, call HORIZON-INFRA-2023-SERV-01, no. 101131121; COORDINATOR: Adelino Canario CCMAR (Portugal). ROLE: CSIC Researcher and Infrastructures manager for Transnational Accesses; PARTNERS: 33; FUNDING FOR CSIC (includes IATS and IEO): 535,022.40 €; TOTAL FUNDING FOR IATS: 334,869.52 €. TOTAL FUNDING FROM EU: 14,157,482.52 €
- FishNUTRIWELL, Aproximaciones holísticas basadas en el uso de nuevas tecnologías para la mejora de la nutrición, salud y bienestar animal de peces en cultivo con la dorada como especie modelo (2022-2025); FUNDING: Ministerio de Ciencia e Innovación, NextGenerationEU (PRTR-C17.11) and Generalitat Valenciana (GVA-THINKINAZUL/2021/024); ROLE: Principal Investigator 2; FUNDING 293,320 €
- AQUAEXCEL3.0: AQUAculture infrastructures for EXCELlence in EUropean fish research 3.0 (2020-2025); FUNDING: UE, H2020, call H2020-INFRAIA-2018-2020, topic INFRAIA-01-2018-2019, no. 871108; COORDINATOR: Marc Vandeputte INRA (France); ROLE: CSIC Researcher and Infrastructures manager for Transnational Accesses; PARTNERS: 22; FUNDING FOR IATS-CSIC: 478,062 €; TOTAL FUNDING FROM EU: 9,981,113.75 €
- Bream-AquaINTECH, Desde mejoras en nutrición y genética a la intensificación e innovación tecnológica del cultivo de la dorada (2019-2022); FUNDING: MICIU, RTI2018-094128-B-I00; ROLE: Principal investigator 2; FUNDING: 257,004 €
- AQUAIMPACT: Genomic and nutritional innovations for genetically superior farmed fish to improve efficiency in European aquaculture (2019-2023); FUNDING: UE, H2020, call H2020-EU.3.2.3.2, topic DTBG-04-2018-2019, no. 818367; COORDINATOR: Antti Kaase, Natural



- Resources Institute (Finland); ROLE: CSIC researcher; PARTNERS: 22; FUNDING FOR CSIC: 340,704 €; TOTAL FUNDING FROM EU: 6,100,000 €
- PERFORMFISH: Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain (2017-2022); FUNDING: UE, H2020-SFS-2016-2017, topic SFS-23-2016, Type of action: RIA GA no. 727610-2; COORDINATOR: Katerina Moutou, University of Thessalia (Greece); ROLE: CSIC researcher; PARTNERS: 28; FUNDING FOR CSIC: 334,580 €; TOTAL FUNDING FROM EU: 6,997,060.75 €
 - AQUAEXCEL²⁰²⁰, AQUAculture infrastructures for EXCELlence in European fish research towards 2020 (2015-2020); FUNDING: UE, H2020, Call INFRAIA-1-2014-2015, grant no. 652831; COORDINATOR: Marc Vandeputte INRA (France); ROLE: CSIC Researcher and Infrastructures manager for Transnational Accesses; PARTNERS: 22; FUNDING FOR CSIC: 591,798 €; TOTAL FUNDING FROM EU: 9.7 million €
 - PARAFISHCONTROL, Advanced Tools and Research Strategies for Parasite Control in European farmed fish (2015-2020); FUNDING: UE, H2020, call H2020-SFS-2014-2015, no. 634429. COORDINATOR: Ariadna Sitjà-Bobadilla (CSIC, Spain); ROLE: CSIC researcher; PARTNERS: 29. FUNDING FOR CSIC: 725,839.74 €; TOTAL FUNDING FROM EU: 9,981,113.75 €
 - Mi2-FISH, las sirtuinas como marcadores epigenéticos que median los cambios metabólicos inducidos por factores nutricionales y patológicos en dorada (2014-2018); FUNDING: MINECO, modalidad Retos AGL2013-48560-C2-1-R; Role: Researcher of Subproject 1; FUNDING: 556,600 €, total (284,350, subproject 1)
 - ARRAINA, Advanced Research Initiatives for Nutrition & Aquaculture (2012-2016); FUNDING: EU, Seventh Framework Programme FP7-KBBE-2011-5; 262336; COORDINATOR: Sadasivam Kaushik (INRA, France); ROLE: CSIC researcher; FUNDING: 534,240.54

C.4. Contracts, technological or transfer merits

- Research and experimental support services in the scope of project "ALGAEBREW, sustainable solutions for the valorisation of brewery by-products using microalgae" (2023-2024); Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: Lambers-Seghers (Belgium); Principal investigator: Jaume Pérez-Sánchez; FUNDING: 89,167 €
- MAGNIFICIENT, Gene expression patterns by PCR-array of different tissues of juvenile sea bream fed with yeast and microalgae as alternative protein sources (2021). Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: SPAROS Lda (Portugal); Principal investigator: Jaume Pérez-Sánchez; FUNDING: 26,000 €
- Evaluation of functional feeds against *Enteromyxum leei* in sea bream (2019-2020). Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: Skretting (Noruega); Principal investigator: Oswaldo Palenzuela; FUNDING: 44,525 €
- PATENT: Dispositivo y método de monitorización de actividad en peces (ref. P201830305). Registered by CSIC and Las Palmas de Gran Canaria University. E Cabruja, M Lozano, J Pérez-Sánchez, J Calduch-Giner, CJ Sosa, MA Ferrer, JA Montiel, JM Afonso.
- Proinmunoil+, dieta funcional para sustitución de ingredientes marinos en peces: maximización de resistencia a patógenos vía refuerzo de barreras epiteliales y herramientas de inmunización (2018-2019); Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: Instituto Universitario de Investigación en Acuicultura Sostenible y Ecosistemas Marinos; Principal investigator: Jaume Pérez-Sánchez; FUNDING: 9,262 €
- Research and experimental support services in the scope of project "ALISSA - Bases para uma alimentação saudável e sustentável para peixes de aquacultura" (2017-2018); Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: Universidade do Algarve; Principal investigator: Jaume Pérez-Sánchez; FUNDING: 53,200 €
- Efectos del DICOSAN y ECOBIOL sobre el crecimiento de doradas en cultivo (Fases I y II) (2015-2016); Type of Contract: Contrato de apoyo tecnológico; Funding Enterprise: NOREL S.A.; Principal investigator: Jaume Pérez-Sánchez; FUNDING: 23.909,60 €