CURRÍCULUM VÍTAE NORMALIZADO

Dr. Joaquim Culi Espigul

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GOBIERNO DE ESPAÑA
MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

FECYT INNOVACIÓN

Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

My scientific journey began with a focus on understanding the molecular, cellular, and genetic mechanisms underlying animal development. Over time, my research interests broadened to encompass various aspects of Drosophila biology, leveraging this versatile model organism to explore the molecular basis of two pervasive human diseases: metabolic syndrome and nephropathies.

I initiated my scientific career at the CBMSO (Madrid), where my doctoral research centered on the mechanisms of neurogenesis. Specifically, I studied the process of lateral inhibition, by which a single neuron emerges from a cluster of seemingly equivalent ectodermal cells expressing pro-neural genes. Through genetic and molecular approaches, I identified a critical proneural gene transcriptional auto-activation loop, orchestrated by an enhancer that integrates positive and negative regulatory signals.

In 1999, I joined Columbia University in New York for postdoctoral research, continuing my work on the mechanisms of development. I focused on HOX genes, key determinants of the animal body plan, and their cofactors Homothorax (Hth) and Extradenticle (Exd). My research revealed how these cofactors modulate HOX DNA-binding specificity and uncovered the unexpected finding that Hth can perform multiple essential functions independent of direct DNA binding. Furthermore, I explored the transcriptional regulation of hth and elucidated the roles of epigenetic factors, including the jing gene and members of the Polycomb group, in this regulation. During this period, I made a high impact contribution to the field of intercellular signaling, with the discovery of the gene boca, a novel an essential component of the Wingless signaling pathway. Molecular and cellular characterization of the Boca protein demonstrated its function as a specialized chaperone for the biosynthesis of Low-Density Lipoprotein Receptor (LDLR) family proteins, including Arrow/LRP6, an obligatory Wingless co-receptor.

In 2004, I returned to Spain, initially as a Ramón y Cajal Fellow, and in 2007, I secured a permanent position at the CABD (Seville) as a CSIC researcher. As an independent principal investigator, my research pivoted towards lipid metabolism in Drosophila, enhancing the model's utility in integrative physiology studies. Our team uncovered the essential role of the lipophorin receptors (LDLR family) in cellular acquisition of neutral lipids from circulating lipoproteins, elucidating how lipids are distributed among different Drosophila organs. Moreover, we identified the novel lipoprotein LTP as a key player in lipid uptake, drawing fascinating parallels to lipoprotein extracellular lipolysis in human microcapillaries.

Since January 2016, I have been collaborating with Dra. Mar Ruiz at the CBMSO (Madrid), applying Drosophila as a model to study human nephropathies. We investigate the formation and dynamics of the slit diaphragm (SD), a specialized cellular junction. This evolutionarily conserved complex, found in human kidney podocytes and Drosophila nephrocytes, is key for the ultrafiltration of fluids and the removal of toxins. Our work seeks to unravel the molecular players and mechanisms underpinning the SD's

assembly, disassembly in response to stress, and subsequent recovery. We aim to shed light on pathological processes relevant to human kidney diseases.

General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

Times Cited: 1053
Publications: 19
Q1 publications: 17

H-Index: 13

PhD thesis supervision: 4
Sexenios de investigación: 2

Current professional situation

Employing entity: Consejo Superior de Investigaciones Científicas
Type of entity: State agency
Department: Tissue and organ homeostasis, Centro de Biología Molecular Severo Ochoa
Professional category: Tenured scientist (Científico titular)
City employing entity: Madrid, Spain
Phone:
Email:
Start date: 01/01/2016
Type of contract: Civil servant
Dedication regime: Full time
Primary (UNESCO code): 240700 - Cell biology
Secondary (UNESCO code): 240105 - Animal development
Identify key words: Natural sciences and health sciences

Previous positions and activities

	Employing entity	Professional category	Start date
1	Consejo Superior de Investigaciones Científicas	Tenured scientist (Científico Titular)	01/07/2007
2	Consejo Superior de Investigaciones Científicas	"Ramón y Cajal" scientist	01/11/2004
3	Columbia University in the city of New York	Postdoctoral scientist	01/08/1999
4	Centro de Biología Molecular Severo Ochoa	Postdoctoral scientist	01/02/1998
5	Consejo Superior de Investigaciones Científicas	PhD student	01/09/1992
6	Universitat Autònoma de Barcelona	Fellowship	01/01/1989

1 **Employing entity:** Consejo Superior de Investigaciones Científicas
Type of entity: State agency
Department: Centro Andaluz de Biología del Desarrollo
Professional category: Tenured scientist (Científico Titular)
Start-End date: 01/07/2007 - 31/12/2015
Duration: 7 years - 7 months
Type of contract: Civil servant
Performed tasks: Investigador Principal

2 **Employing entity:** Consejo Superior de Investigaciones Científicas
Type of entity: State agency
Department: Centro de Biología Molecular Severo Ochoa
Professional category: "Ramón y Cajal" scientist

Start-End date: 01/11/2004 - 01/06/2007 **Duration:** 2 years - 7 months
Type of contract: Temporary employment contract
Performed tasks: Investigador principal

3 **Employing entity:** Columbia University in the city of New York **Type of entity:** University
Department: College of Physicians and Surgeons, Columbia University in the City of New York
City employing entity: New York, United States of America
Professional category: Postdoctoral scientist
Start-End date: 01/08/1999 - 01/10/2004 **Duration:** 5 years
Type of contract: Temporary employment contract

4 **Employing entity:** Centro de Biología Molecular Severo Ochoa **Type of entity:** State agency
Department: Centro de Biología Molecular Severo Ochoa
Professional category: Postdoctoral scientist
Start-End date: 01/02/1998 - 01/07/1999 **Duration:** 1 year - 5 months
Type of contract: Temporary employment contract

5 **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Department: Centro de Biología Molecular Severo Ochoa
Professional category: PhD student
Start-End date: 01/09/1992 - 01/02/1998 **Duration:** 6 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)

6 **Employing entity:** Universitat Autònoma de Barcelona **Type of entity:** University
Department: Citología e Histología, Universitat Autònoma de Barcelona
Professional category: Fellowship
Start-End date: 01/01/1989 - 01/01/1992 **Duration:** 3 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree
Name of qualification: Degree in Biological Sciences
Degree awarding entity: Universitat Autònoma de Barcelona **Type of entity:** University
Date of qualification: 07/07/1992

Doctorates

Doctorate programme: PhD in Biochemistry and Molecular Biology
Degree awarding entity: Universidad Autónoma de Madrid
Date of degree: 10/02/1998

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
Catalan	C2	C2	C2	C2	C2
Spanish	C2	C2	C2	C2	C2
English	C2	C2	C2	C2	C2

Teaching experience

General teaching experience

1 **Name of the course:** MECANISMOS DE DIFERENCIACION TISULAR Y MORFOGENESIS
University degree: Máster Universitario en Biotecnología Sanitaria
Frequency of the activity: 5
Start date: 21/07/2011 **End date:** 10/07/2015
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 14
Entity: Universidad Pablo de Olavide **Type of entity:** University

2 **Name of the course:** Control de la División Celular Desarrollo y Envejecimiento
University degree: Experimentación en Biotecnología
Start date: 26/04/2010 **End date:** 26/04/2010
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1

Entity: Universidad Pablo de Olavide **Type of entity:** University

3 **Name of the course:** GABBA
University degree: Graduate Program in Areas of Basic and Applied Biology
Start date: 15/02/2010 **End date:** 15/02/2010
Type of hours/ ECTS credits: Credits
Hours/ECTS credits: 1
Entity: Universidad de Oporto

Experience supervising doctoral thesis and/or final year projects

1 **Project title:** Characterization of Scramb1 interactome, an organizer of the assembly of slit diaphragms in lipid rafts microdomains.
Type of project: Doctoral thesis
Co-director of thesis: Joaquim Culi Espigul; Mar Ruiz Gómez
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Vicente Castillo Mancho
Date of reading: 27/10/2023

2 **Project title:** Análisis de interacciones proteína-proteína en el diafragma de filtración renal de los nefrocitos de Drosophila, un complejo multiproteico
Type of project: Trabajo fin de máster (TFM)
Co-director of thesis: Mar Ruiz Gómez; Joaquim Culi Espigul
Entity: Universidad Autónoma de Madrid y Universidad de Alcalá **Type of entity:** University
Student: Jorge Sarmiento Jiménez
Date of reading: 24/06/2021

3 **Project title:** A subgroup of Drosophila melanogaster lipophorin receptor isoforms interacts with diverse affinities with the lipoproteins lipophorin and LTP in the plasma membrane to mediate the cellular acquisition of lipids
Type of project: Doctoral thesis
Entity: Universidad de Sevilla **Type of entity:** University
Student: Miriam Rodriguez Vázquez
Date of reading: 11/07/2018

4 **Project title:** Papel del gen Klf15 en la especificación y diferenciación de nefrocitos en Drosophila melanogaster
Type of project: End of course project
Co-director of thesis: Mar Ruiz Gómez; Joaquim Culi Espigul
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Irene Ruiz Pérez
Date of reading: 02/07/2018

5 **Project title:** Silenciamiento del gen ApoLTP mediante RNA interferente en Drosophila melanogaster
Type of project: End of course project
Entity: Universidad de Sevilla **Type of entity:** University
Student: John Edward Mejía Morales
Date of reading: 20/06/2015

6 **Project title:** Función de las proteínas Lipophorin Receptor 1 y Lipophorin Receptor 2 de Drosophila melanogaster en el metabolismo lipídico
Type of project: Doctoral thesis
Entity: Universidad Pablo de Olavide **Type of entity:** University
Student: David Vaquero Escala
Date of reading: 20/03/2015

7 **Project title:** The Low Density Lipoprotein Receptor protein family in Drosophila. Their functions during development and in the cellular acquisition of neutral lipids
Type of project: Doctoral thesis
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Esmeralda Parra Peralbo
Date of reading: 01/07/2011

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

1 **Name of the project:** Assembly and dynamics of the kidney slit diaphragm junction
Entity where project took place: Centro de Biología Molecular Severo Ochoa **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Mar Ruiz Gómez; Joaquim Culi Espigul
Nº of researchers: 3
Start-End date: 01/09/2023 - 31/08/2026
Total amount: 190.000 €

2 **Name of the project:** Building a renal slit diaphragm: a developmental and proteomic approach.
Entity where project took place: Centro de Biología Molecular Severo Ochoa **Type of entity:** State agency
City of entity: Madrid,
Name principal investigator (PI, Co-PI....): Mar Ruiz Gómez; Joaquim Culi Espigul
Nº of researchers: 3
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio
Start-End date: 01/06/2020 - 31/05/2023
Total amount: 181.500 €

3 **Name of the project:** Molecular and functional study of renal filtration diaphragm dynamics in health and disease
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid,
Name principal investigator (PI, Co-PI....): Mar Ruiz Gómez; Joaquim Culi Espigul
Nº of researchers: 3
Funding entity or bodies:

Ministerio de Ciencia e Innovación **Type of entity:** Ministerio

Start-End date: 30/12/2016 - 29/12/2019
Total amount: 242.000 €

4 **Name of the project:** The Lipophorin Receptors and Drosophila energy homeostasis
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Sevilla,
Name principal investigator (PI, Co-PI....): Joaquim Culi Espigul
Nº of researchers: 1
Funding entity or bodies:
Ministerio de Ciencia e Innovación **Type of entity:** Ministerio

Start-End date: 01/01/2012 - 30/09/2015
Total amount: 151.250 €

5 **Name of the project:** MOLECULAR GENETICS OF SEGMENT IDENTITY
Entity where project took place: Columbia University in the city of New York **Type of entity:** University
City of entity: New York,
Name principal investigator (PI, Co-PI....): Richard S. Mann
Funding entity or bodies:
National Institutes of Health (NIH)
City funding entity: Washington

Start-End date: 01/08/1992 - 01/08/2015
Total amount: 6.110.906 €

6 **Name of the project:** From Genes to Shape: analysis of morphogenesis in Drosophila and vertebrates
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Ginés Morata Pérez
Nº of researchers: 97
Funding entity or bodies:
Ministerio de Ciencia y Tecnología - Programa Consolider 2007

Start-End date: 01/10/2007 - 01/10/2013
Total amount: 6.127.000 €

7 **Name of the project:** Role of Low Density Lipoprotein Receptor family members in lipid metabolism and TGF-ß signaling in Drosophila.
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Sevilla,
Name principal investigator (PI, Co-PI....): Joaquim Culi Espigul
Nº of researchers: 3
Funding entity or bodies:
MINISTERIO DE EDUCACION Y CIENCIA

Start-End date: 01/01/2009 - 30/12/2011
Total amount: 216.837 €

8 **Name of the project:** El receptor Lrp1 Modula la Señalización TGF-beta en Drosophila
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Sevilla,
Name principal investigator (PI, Co-PI....): Joaquim Culi Espigul
Funding entity or bodies:
CSIC- proyectos intramurales especiales del programa de ayudas para la incorporación de personal investigador a las escalas científicas del CSIC

Start-End date: 01/08/2007 - 31/12/2008
Total amount: 30.000 €

9 **Name of the project:** La Familia de Receptores de Lipoproteínas de Baja Densidad. Funciones en Desarrollo y Señalización
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Sevilla,
Name principal investigator (PI, Co-PI....): Joaquim Culi Espigul
Nº of researchers: 1
Funding entity or bodies:
MINISTERIO DE EDUCACION Y CIENCIA

Start-End date: 31/12/2005 - 31/12/2008
Total amount: 116.620 €

10 **Name of the project:** Low Density Lipoprotein Receptors in Development and Signaling
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid,
Name principal investigator (PI, Co-PI....): Joaquim Culi Espigul
Nº of researchers: 1
Funding entity or bodies:
European Commission - Marie Curie Programme

Start-End date: 16/11/2005 - 16/11/2007
Total amount: 80.000 €

11 **Name of the project:** Low-density lipoprotein receptors in Drosophila: their biogenesis and role in organogenesis
Entity where project took place: Columbia University in the city of New York **Type of entity:** University
City of entity: New York, United States of America
Name principal investigator (PI, Co-PI....): Richard S. Mann
Nº of researchers: 1
Funding entity or bodies:
American Heart Association
City funding entity: United States of America

Start-End date: 01/07/2003 - 01/08/2006
Total amount: 157.717 €

12 **Name of the project:** Posttranslational mechanisms controlling development
Entity where project took place: Columbia University in the city of New York
City of entity: New York, United States of America

Name principal investigator (PI, Co-PI....): Richard S. Mann
Funding entity or bodies:
National Institutes of Health (NIH)

Start-End date: 01/01/1999 - 31/12/2002
Total amount: 922.870 €

13 **Name of the project:** Sequence of divisions 1-3 of Drosophila genome
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid,
Name principal investigator (PI, Co-PI....): Juan Modolell Mainou
Funding entity or bodies:
DGICYT

European Commission **Type of entity:** Public Research Body

Start-End date: 01/12/1996 - 30/11/1999
Total amount: 554.070 €

14 **Name of the project:** Molecular and genetic analysis of morphogenetic patterns in Drosophila
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Name principal investigator (PI, Co-PI....): Juan Modolell Mainou
Funding entity or bodies:
DGICYT **Type of entity:** Public Research Body

Start-End date: 22/07/1994 - 22/07/1999
Total amount: 360.607 €

15 **Name of the project:** Genetic and Molecular analysis of neurogenesis in Drosophila
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid,
Name principal investigator (PI, Co-PI....): Juan Modolell Mainou
Funding entity or bodies:
DGICYT

Start-End date: 30/09/1991 - 30/09/1994
Total amount: 246.415 €

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

1 V Castillo-Mancho; A Atienza-Manuel; J Sarmiento-Jiménez; M Ruiz-Gómez; J Culi. Phospholipid scramblase 1: an essential component of the nephrocyte slit diaphragm.Cellular and molecular life sciences : CMLS. 81, pp. 261. 2024. ISSN 1420-682X
DOI: 10.1007/s00018-024-05287-z
PMID: 38878170
Type of production: Scientific paper
Corresponding author: Yes

2 Marta Carrasco-Rando; Joaquim Culi; Sonsoles Campuzano; Mar Ruiz-Gomez. An acytokinetic cell division creates PIP2-enriched membrane asymmetries leading to slit diaphragm assembly in Drosophila nephrocytes. DEVELOPMENT. 150, COMPANY BIOLOGISTS LTD, 2023. ISSN 0950-1991
DOI: 10.1242/dev.201708
PMID: MEDLINE:37681291
Type of production: Scientific paper
Corresponding author: No

3 A. Atienza-Manuel; V. Castillo-Mancho; S. de Renzis; J. Culi; M. Ruiz-Gómez. Endocytosis mediated by an atypical CUBAM complex modulates slit diaphragm dynamics in nephrocytes. Development (Cambridge). 148 - 22, 2021.
DOI: 10.1242/dev.199894
PMID: 34738617
Type of production: Scientific paper
Corresponding author: Yes

4 A. López-Varea; C.M. Ostalé; P. Vega-Cuesta; A. Ruiz-Gómez; M.F. Organista; M. Martín; C.F. Hevia; C. Molnar; J. de Celis; J. Culi; N. Esteban; J.F. de Celis. Genome-wide phenotypic RNAi screen in the Drosophila wing: Global parameters. G3: Genes, Genomes, Genetics. 11 - 12, 2021.
DOI: 10.1093/g3journal/jkab351
PMID: 34599819
Type of production: Scientific paper
Corresponding author: No

5 A. López-Varea; P. Vega-Cuesta; A. Ruiz-Gómez; C.M. Ostalé; C. Molnar; C.F. Hevia; M. Martín; M.F. Organista; J. de Celis; J. Culí; N. Esteban; J.F. de Celis. Genome-wide phenotypic RNAi screen in the Drosophila wing: Phenotypic description of functional classes. G3: Genes, Genomes, Genetics. 11 - 12, 2021.
DOI: 10.1093/g3journal/jkab349
PMID: 34599810
Type of production: Scientific paper
Corresponding author: No

6 M. Carrasco-Rando; S. Prieto-Sánchez; J. Culi; A.S. Tutor; M. Ruiz-Gómez. A specific isoform of Pyd/ZO-1 mediates junctional remodeling and formation of slit diaphragms. Journal of Cell Biology. 218 - 7, pp. 2294 - 2308. 2019.
DOI: 10.1083/jcb.201810171

PMID: 31171632
Type of production: Scientific paper
Corresponding author: No

7 M. Rodríguez-Vázquez; D. Vaquero; E. Parra-Peralbo; J.E. Mejía-Morales; J. Culi. Drosophila Lipophorin Receptors Recruit the Lipoprotein LTP to the Plasma Membrane to Mediate Lipid Uptake. PLoS Genetics. 11 - 6, 2015. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84937792374&doi=10.1371%2fjournal.pgen.1005356&partnerID=40&md5=174e86b1011de2f9fd54feed8c47460c
Type of production: Scientific paper **Format:** Journal

8 E. Parra-Peralbo; J. Culi. Drosophila lipophorin receptors mediate the uptake of neutral lipids in oocytes and imaginal disc cells by an endocytosis-independent mechanism. PLoS Genetics. 7 - 2, 2011. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-79952258987&doi=10.1371%2fjournal.pgen.1001297&partnerID=40&md5=1ecc0b901d9a93d63a3212424ec5fe6
Type of production: Scientific paper **Format:** Journal

9 S.F. Soukup; J. Culi; D. Gubb. Uptake of the necrotic serpin in Drosophila melanogastervia the lipophorin receptor-1. PLoS Genetics. 5 - 6, 2009. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-67651238708&doi=10.1371%2fjournal.pgen.1000532&partnerID=40&md5=32930a46fa777bde9a810b479fa92dc
Type of production: Scientific paper **Format:** Journal

10 A. Callejo; J. Culi; I. Guerrero. Patched, the receptor of Hedgehog, is a lipoprotein receptor. Proceedings of the National Academy of Sciences of the United States of America. 105 - 3, pp. 912 - 917. 2008. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-38949218488&doi=10.1073%2fpnas.0705603105&partnerID=40&md5=c625543ad27c699fc49753c764096ae9>.
Type of production: Scientific paper **Format:** Journal

11 B. Noro; J. Culi; D.J. McKay; W. Zhang; R.S. Mann. Distinct functions of homeodomain-containing and homeodomain-less isoforms encoded by homothorax. Genes and Development. 20 - 12, pp. 1636 - 1650. 2006. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-33745123022&doi=10.1101%2fgad.1412606&partnerID=40&md5=1f2797294df4580eb6fbf9a4c5b44d87>.
Type of production: Scientific paper **Format:** Journal

12 J. Culi; P. Aroca; J. Modolell; R.S. Mann. jing is required for wing development and to establish the proximo-distal axis of the leg in Drosophila melanogaster. Genetics. 173 - 1, pp. 255 - 266. 2006. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-33744488842&doi=10.1534%2fgenetics.106.056341&partnerID=40&md5=d9f30b482c946f68ebb2654a85864e26
Type of production: Scientific paper **Format:** Journal

13 R.S. Mann; J. Culi. Developmental biology: Morphogens hitch a greasy ride. Nature. 435 - 7038, pp. 30 - 33. 2005. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-18344362120&doi=10.1038%2f435030a&partnerID=40&md5=0abe9f606e260a066a55420b676f3552>.
Type of production: Scientific paper **Format:** Journal

14 J. Culi; T.A. Springer; R.S. Mann. Boca-dependent maturation of β-propeller/EGF modules in low-density lipoprotein receptor proteins. EMBO Journal. 23 - 6, pp. 1372 - 1380. 2004. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-1942535218&doi=10.1038%2fsj.emboj.7600132&partnerID=40&md5=cc8c7d63332254af1e7db5a5275ecf83>.
Type of production: Scientific paper **Format:** Journal

15 J. Culi; R.S. Mann. Boca, an endoplasmic reticulum protein required for wingless signaling and trafficking of LDL receptor family members in Drosophila. Cell. 112 - 3, pp. 343 - 354. 2003. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0037423256&doi=10.1016%2fS0092-8674%2802%2901279-5&partnerID=40&md5=c790421cb3fe831392d8ff10c

Type of production: Scientific paper **Format:** Journal

16 B. Gebelein; J. Culi; H.D. Ryoo; W. Zhang; R.S. Mann. Specificity of Distalless repression and limb primordia development by abdominal Hox proteins. Developmental Cell. 3 - 4, pp. 487 - 498. 2002. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0036774750&doi=10.1016%2fS1534-5807%2802%2900257-5&partnerID=40&md5=e09b9c11fa4b7fe9113d25ec
Type of production: Scientific paper **Format:** Journal

17 J. Culi; E. Martín-Blanco; J. Modolell. The EGF receptor and N signalling pathways act antagonistically in Drosophila mesothorax bristle patterning. Development. 128 - 2, pp. 299 - 308. 2001. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0035146601&partnerID=40&md5=6389dae2e87018ceaecc7bccfe415f2d>.
Type of production: Scientific paper **Format:** Journal

18 J. Culí; J. Modolell. Proneural gene self-stimulation in neural precursors: An essential mechanism for sense organ development that is regulated by Notch signaling. Genes and Development. 12 - 13, pp. 2036 - 2047. 1998. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0032128198&doi=10.1101%2fgad.12.13.2036&partnerID=40&md5=f40c12524b1e098777beb500839d6d3a>.
Type of production: Scientific paper **Format:** Journal

19 J.L. Gomez-Skarmeta; I. Rodriguez; C. Martinez; J. Culi; D. Ferres-Marco; D. Beamonte; J. Modolell. Cis-regulation of achaete and scute: Shared enhancer-like elements drive their coexpression in proneural clusters of the imaginal discs. Genes and Development. 9 - 15, pp. 1869 - 1882. 1995. Available on-line at: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0029118867&doi=10.1101%2fgad.9.15.1869&partnerID=40&md5=0818704877c20defee5952c63ff2ca16>.
Type of production: Scientific paper **Format:** Journal

Works submitted to national or international conferences

1 **Title of the work:** Scramb1 interactome: Deciphering Scramb1 role in nephrocyte slit diaphragm
Name of the conference: 43rd Annual Meeting of the Spanish Society of Biochemistry & Molecular Biology
Type of event: Conference
Type of participation: Participatory - poster
City of event: Barcelona, Valencian Community, Spain
Date of event: 19/07/2021
End date: 22/07/2021
Organising entity: Sociedad Española de Bioquímica y Biología Molecular (SEBBM)
Vicente Castillo Mancho; Alexandra Atienza Manuel; Mar Ruiz Gómez; Joaquim Culi Espigul.

2 **Title of the work:** Analysis of non-phosphorylatable variants of Dumbfounded, a main component of Drosophila nephrocytes slit diaphragms
Name of the conference: European Developmental Biology Congress
Type of event: Conference
Type of participation: Participatory - poster
City of event: Alacant, Valencian Community, Spain
Date of event: 23/10/2019
End date: 26/10/2019
Organising entity: Sociedad Española de Biología del Desarrollo (SEBD)
Vicente Castillo Mancho; Joaquim Culi Espigul; Mar Ruiz Gómez.

3 **Title of the work:** AN ATYPICAL LONG SIGNAL PEPTIDE CONTROLS THE TRANSLATION EFFICIENCY AND DISTRIBUTION OF LIPOPHORIN RECEPTOR ISOFORMS
Name of the conference: 23rd European Drosophila Research Conference
Type of event: Conference
Type of participation: Participatory - poster
Corresponding author: Yes
City of event: España,
Date of event: 2013
Míriam Vázquez; E- Parra-Peralbo; J. Culi.

4 **Title of the work:** Post-transcriptional regulation of lipophorin receptors. A sensor mechanism involving the lipophorin receptors couples the metabolic status of the female fly with oogenesis progression
Name of the conference: 1st Spanish Conference on the Molecular, Cellular and Developmental Biology of Drosophila
Type of event: Conference
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Begur, España,
Date of event: 2012
J. Culi.

5 **Title of the work:** Post-translational regulation of lipophorin receptors
Name of the conference: IX Meeting of the Spanish Society of Developmental Biology
Type of event: Conference
Type of participation: Participatory - poster
Corresponding author: Yes
City of event: Granada, España,
Date of event: 2012
M. Rodríguez Vázquez y J. Culi.

6 **Title of the work:** Dissection of lipophorin receptors isoforms cellular properties
Name of the conference: 22nd EUROPEAN DROSOPHILA RESEARCH CONFERENCE
Type of event: Conference
Type of participation: Participatory - poster
City of event: Portugal,
Date of event: 2011
Míriam Vázquez; E- Parra-Peralbo; J. Culi.

7 **Title of the work:** Drosophila Lipophorin Receptors mediate the uptake of neutral lipids in oocytes and imaginal disc cells by an endocytosis-independent mechanism
Name of the conference: 22nd EUROPEAN DROSOPHILA RESEARCH CONFERENCE
Type of event: Conference
Type of participation: Participatory - poster
City of event: España,
Date of event: 2011
E. Parra-Peralbo y J. Culi.

8 **Title of the work:** IDENTIFICATION OF LIPOPHORIN RECEPTORS LIGANDS INVOLVED IN LIPID UPTAKE
Name of the conference: 22nd EUROPEAN DROSOPHILA RESEARCH CONFERENCE
Type of event: Conference

Type of participation: Participatory - poster
City of event: Portugal,
Date of event: 2011
D. Vaquero y J. Culi.

9 **Title of the work:** Megalin during wing development
Name of the conference: Joint Meeting of the Portuguese and Spanish Developmental Biology Societies
Type of event: Conference
Type of participation: Participatory - poster
City of event: España,
Date of event: 2010
D. Vaquero; E. Parra-Peralbo; J. Culi.

10 **Title of the work:** Drosophila LRP1 modulates BMP signaling
Name of the conference: Joint Meeting of the British &Spanish Developmental Biology Societies
Type of event: Conference
Type of participation: Participatory - poster
City of event: España,
Date of event: 2008
E. Parra-Peralbo y J. Culi.

11 **Title of the work:** Drosophila lipophorin receptors mediate cellular uptake of lipids and are required for female fertility
Name of the conference: Joint Meeting of the British &Spanish Developmental Biology Societies
Type of event: Conference
Type of participation: Participatory - poster
City of event: España,
Date of event: 2008
J. Culi.

12 **Title of the work:** Boca/Mesd as molecular chaperone of LDL receptor family members
Name of the conference: European Lipoprotein Club (ELC) meeting
Type of event: Conference
Type of participation: Participatory - poster
City of event: Tutzing, Alemania,
Date of event: 2006
Sabine Christian; Tarek M. Bajari; Johannes Nimpf; Joaquim Culi; Wolfgang J. Schneider.

13 **Title of the work:** Characterization of a new gene involved in the development of the proboscis
Name of the conference: 43th Annual Drosophila Research Conference
Type of event: Conference
Type of participation: Participatory - poster
City of event: San Diego, California. EEUU,
Date of event: 2002
J. Culi y R. S. Mann.

14 **Title of the work:** A Protein complex containing UBX, EXD and HTH is required for repression of Distalless gene expression
Name of the conference: 42nd Annual Drosophila Research Conference
Type of event: Conference
Type of participation: Participatory - poster

City of event: Washington, DC. EEUU,
Date of event: 2001
B. A. Gebelein; J. Culí; H.-D. Ryoo; R. S. Mann.

15 **Title of the work:** Proneural gene self-stimulation in neural precursors is essential for sense organ development and is regulated by Notch signaling
Name of the conference: 39th Annual Drosophila Research Conference
Type of event: Conference
Type of participation: Participatory - poster
City of event: Washington, DC. EEUU,
Date of event: 1998
J. Culí y J. Modolell.

16 **Title of the work:** Characterization of enhancer elements driving expression of the proneural achaete-scute genes
Name of the conference: 24º Congreso de la "Federation of European Biochemical Societies"
Type of event: Conference
Type of participation: Participatory - poster
City of event: Barcelona, España.,
Date of event: 1996
M.J. García; J. Culí; J.L. Gómez-Skarmeta; J. Modolell.

17 **Title of the work:** Scute regulation in sensory mother cells
Name of the conference: 24º Congreso de la "Federation of European Biochemical Societies"
Type of event: Conference
Type of participation: Participatory - poster
City of event: Barcelona, España,
Date of event: 1996
J. Culí y J. Modolell.

18 **Title of the work:** Characterization of enhancer elements driving expression of achaete-scute genes
Name of the conference: European Developmental Biology Organisation
Type of event: Conference
Type of participation: Participatory - poster
City of event: Toulouse, Francia.,
Date of event: 1995
J. Culí; M.J. García; J.L. Gómez-Skarmeta; C. Martínez; J. Modolell.

19 **Title of the work:** Interspecific comparison of the scute promoter and coding region
Name of the conference: 5º Congreso Europeo sobre Neurobiología de Drosophila.
Type of event: Conference
Type of participation: Participatory - poster
City of event: La Grande Motte,
Date of event: 1994
J. Culí; D. Beamonte; J. Modolell.

20 **Title of the work:** Molecular characterization of vein gene
Name of the conference: 12º Congreso Internacional de la "International Society of Developmental Biologists"
Type of event: Conference
Type of participation: Participatory - poster

City of event: Vienna, Australia
Date of event: 1993
J. Culí y J. Modolell.

Other achievements

Stays in public or private R&D centres

Entity: Columbia University in the city of New York
City of entity: New York, United States of America
Start-End date: 01/08/1999 - 01/10/2004 **Duration:** 5 years - 3 months
Goals of the stay: Post-doctoral