**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 | Ángel | | |
| Family name | Acebes Vindel | | |
| Gender (*) | | Birth date (dd/mm/yyyy) | |
| ID number | | | |
| e-mail | | URL Web | |
| Open Researcher and Contributor ID (ORCID) | | 0000-0003-0020-1913 | |

### A.1. Current position

| | | | |
|---|---|---|---|
| Position | University Full Professor | | |
| Initial date | January 7th, 2021 | | |
| Institution | Institute of Biomedical Technologies /Instituto de Tecnologías Biomédicas (ITB) University of La Laguna (Tenerife) | | |
| Department/Center | Department of Basic Medical Sciences | | |
| Country | Spain | Teleph. number | |
| Key words | Neurodegenerative diseases, synaptogenesis, *Drosophila melanogaster*, mice AD models, pro-synaptogenic tools | | |

### A.2. Previous positions

| Period | Position/Institution/Country |
|---|---|
| 2017-2021 | Associate Professor (Profesor Contratado Doctor)<br>University of La Laguna, Spain |
| 2013-2017 | Scientific Researcher-Group Leader<br>IMBRAIN Project of the European Commission<br>University of La Laguna, Spain |
| 2007-2012 | Ramón y Cajal Postdoctoral Contract (MICINN).<br>Cajal Institute (CSIC) |
| 2004-2007 | European Reintegration Grant (ERG) (Contract MERG-CT-2004-502902, EC). Cajal Institute (CSIC). |
| 2001-2003 | Poste Rouge (CNRS) and Marie Curie Individual Postdoctoral Fellowship (EC). UMR 5548/CNRS, Université de Bourgogne (UB), Dijon (France) |
| 1999-2000 | CAM Postdoctoral Contract. Cajal Institute (CSIC) |

### A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| PhD in Biological Sciences | Autonomous University of Madrid, Spain | 1999 |
| Master degree in Neurobiology | Autonomous University of Madrid, Spain | 1994 |
| Bachelor`s degree in Biological Sciences | Autonomous University of Madrid, Spain | 1990 |

## Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

As a molecular biologist, major scientific contributions of Dr. Acebes during his PhD as a European Neuroscience Foundation fellow (1994-1999) and as a CAM postdoctoral fellow (1999-2000) at the Cajal Institute (CSIC, Madrid) relied on identifying tools to increase synapse number *in vivo* in the cerebral circuits of the fruifly *Drosophila melanogaster*, using genetic manipulations, electrophysiology, and behavioral tests. After a Marie Curie postdoctoral stage (UMR5548/CNRS, Dijon, France, 2000-2004), he was awarded with a competitive international grant (ERG-EC, 2004-2007) and a Ramón y Cajal postdoctoral contract to return at Cajal Institute, with the team of Dr. Alberto Ferrús (2007-2012). During this period, he established his own research line focusing on the modulation of synapse number, by means of genetic and pharmacological prosynaptogenic tools, and its impact on fly and mammal (rodents) brain's function, employing animal behavior as a functional readout. He obtained funds as a Principal Investigator from international and national public agencies (CNRS/CSIC) and private institutions (Fundación Ramón Areces). In July 2013, he obtained a contract as a postdoctoral researcher from the IMBRAIN project (European Commission) to set up his own research group (Molecular Mechanisms in Neurodegeneration) at the Institute of Biomedical Technologies (ITB) of the University of La Laguna (ULL), establishing collaborations with research groups from France, Sweden, USA and México. His main research line aims to counteract early neurodegenerative events, like synaptic loss and anosmia, employing molecular pro-synaptogenic tools allowing *in vivo* synapse restoration in animal models of neurodegenerative diseases. This research line has been previously funded by AEI (Ref: PID2019-106509RB-I00). Also, he has developed several fruitful collaborations with other ULL researchers (see publications #1 and #7) and a collaborative project for the technological development of 3D microscopy with Wooptix, an ULL spin-off company (see publication #3), obtaining funds as PI from local research agencies (ACIISI, Cabildo de Tenerife). Since 2020, he is leading a project for the characterization of a suitable human cellular model to perform an individualized follow-up of disease progression in AD patients, collaborating with the group of Dra. Benítez-King (INPRFM, México) (see publication #2). Regarding training programs and education of young researchers, he has supervised five PhD students, two of them at ULL (one finished in 2019, and other currently under development within in an International PhD program). As a Full University Professor, he has supervised the final degree and master's degree project of 12 ULL students and mentored 2 international fellows (Erasmus+ program) since 2013. Besides, as former main responsible of the SENC's (*Sociedad Española de Neurociencia)* Young Investigator´s Committee (2017-2021), he has been always strongly committed to create and promote a young researcher's fellowships program. Nowadays, he is the organizer of a mentoring event devoted to boost early development careers in national (SENC 2021) and international congresses (FENS 2022, IBRO 2023). Additionally, since 2014, he is the coordinator at ULL of an internship international program with the SoLS-UKE (Hamburg, Germany, see Contract below) obtaining several grants from the Erasmus+ Program. Moreover, Dr. Acebes is the current Academic Director of the Master of Biomedicine (ULL) since 2019, ITB Secretary (2019-2023) and current vice director. He is also member of executive committees at *Red Olfativa Española* (ROE) and SENC. Evaluator from ANR, ANEP, ANECA and Eureka-Eurostars, associated editor in Frontiers in Neuroanatomy and reviewer (Learning and Memory and Frontiers in Neuroscience). He has also strongly participated in dissemination and social activities (Feria de la Ciencia, AFATE (regional AD patient association)) social and mass media (X @ITB-ULL, broadcasting and TV interviews).

## Part C. RELEVANT MERITS

### C.1.1. Publications (AC: Corresponding Author)

1.- Seoane SL, van den Heuvel M, **Acebes A**, Janssen N (2024) The Subcortical Default Mode Network and Alzheimer's Disease: A systematic review and Activation Likelihood Estimation Meta-Analysis. ***Brain Communications*** 6(2):fcae128.

2.- Santillán-Morales V; Rodriguez-Espinosa N; Muñoz-Estrada J; Alarcón-Elizalde S; **Acebes A (AC)**; Benítez-King G (AC) (2024) Biomarkers in Alzheimer's Disease: Are Olfactory Neuronal Precursors Useful for *Antemortem* Biomarker Research? ***Brain Sciences*** 14(1): 46.

3.- Cairós C (AC); Oliva-García R; Siverio G; Trujillo-Sevilla JM; Rodríguez-Ramos JM; **Acebes A (AC)** (2023) Refractive index estimation in biological tissues by quantitative phase imaging. ***Optical Materials*** 142:114087.

4.- Estevez-Silva HM; Cuesto G; Romero N; Brito-Armas JM; Acevedo-Arocena A; **Acebes A (AC)**; Marcellino D (AC) (2022) Pridopidine Promotes Synaptogenesis and Reduces Spatial Memory Deficits in the Alzheimer's Disease APP/PS1 Mouse Model. ***Neurotherapeutics*** 19:1566–1587.

5.- Guebel DV; Torres NV; **Acebes A** (2021) Mapping the transcriptomic changes of endothelial compartment in human hippocampus across aging and mild cognitive impairment. ***Biology Open*** 10(5) bio057950.

6.- Arnés M; Romero N; Casas-Tintó S (AC); **Acebes A (AC)**; Ferrús A (AC) (2020) PI3K activation prevents Aβ42-induced synapse loss and favors insoluble amyloid deposit formation. ***Molecular Biology of the Cell*** 31(4): 244-260.

7.- Rodriguez-Rodriguez AE; Donate-Correa J; Rovira J; **Acebes A (AC, 9/11)**; Torres A (AC); Porrini E (AC) (2019) Inhibition of the mTOR pathway: a new mechanism of ß-cell toxicity induced by Tacrolimus. ***American Journal of Transplantation*** 19(12): 3240-3249.

8.- Cuesto G; Jordán-Álvarez S; Enriquez-Barreto L; Ferrus A; Morales M (AC); **Acebes A (AC)** (2015) GSK3β inhibition promotes synaptogenesis in *Drosophila* and mammalian neurons. ***PLoS One*** 10 (3): e0118475.

9.- Jordán-Álvarez S; Fouquet W; Sigrist SJ; **Acebes A (AC)** (2012) Presynaptic PI3K activity triggers the formation of glutamate receptors at neuromuscular terminals of *Drosophila.* ***Journal of Cell Science*** 125: 3621-3629.

10.- Cuesto G; Enriquez-Barreto L; Carames C; **Acebes A (AC, 8/9)**; Morales M (AC) (2011) PI3K activation controls synaptogenesis and spinogenesis in hippocampal neurons. ***Journal of Neuroscience*** 31: 2721-2733.

11.- Martín-Peña A; **Acebes A**; Rodríguez JR; Sorribes A; de Polavieja GG; Fernández-Fúnez P; Ferrús A (2006) Age-independent synaptogenesis by Phosphoinositide 3 Kinase. ***Journal of Neuroscience*** 26: 10199-10208.

**C.2. Congresses (OC = oral communication, PC = poster communication)**

1.- **Acebes A.** *Olfactory changes in early stages of Dementia*. Invitational Conference IJRG Move in Age. Early diagnostic features in Alzheimer's Disease. Drachten, The Netherlands. December 19th, 2024. **OC.**

2.- **Acebes A.** *Gait disorders in early stages of Alzheimer's disease*. International Meeting: TIG HA ULL Meeting (2024). La Laguna, Spain. December 3rd-4th, 2024. **OC** and organizer

3.- **Acebes A.** *Uso de precursores neuronales en la enfermedad de Alzheimer*. XXV reunión anual de la Sociedad Canaria de Neurología, La Laguna, Spain. October 6th, 2023. **OC**.

4.- **Acebes A.** *Speed-Neurodating*. Early Career Sessions at IBRO 2023-IBRO 11th IBRO World Congress of Neuroscience, Granada, Spain. September 11th, 2023. **OC** and organizer.

5.- **Acebes A.** *Speed-Neurodating: An innovative workshop aimed at the students to meet young and consolidated Neuroscientists.* FENS Forum 2022, Paris, France. July 9th-13th, 2022. **OC** and organizer of the workshop.

5.- **Acebes A.** *Synapse number modulation and neuroprotection in Alzheimer Disease context*. XXXVI Annual Research Meeting of the Psychiatry National Institute "Ramón de la Fuente Muñiz" (INPRFM) México DF, México. Sept 28-Oct 3rd, 2021. **OC** (Plenary lecture, invited).

6.- Estevez-Silva HM; Cuesto G; Romero N; **Acebes A**; Marcellino D. *Pridopidine enhances synaptogenesis and ameliorates spatial memory impairment in the APP/PS1 model of AD*. XVIII SENC Congress. Santiago de Compostela, Spain. Sept 4-9th, 2019. **PC**.

**C.3. Research projects**

1.- Title: ""STARS EU, the strategic alliance for regional transition Europe, integrates a health care team system around patients with lower health literacy and digital literacy (STARS-Health)". Agency: Transforming Health and Care Systems (THCS)-European Union. Amount: 160.000 €. Period: 01/04/2025 - 31/03/2028. Co-Principal Investigator (PI) ULL.

2.- Title: "Restauración sináptica: una nueva estrategia terapéutica contra la neurodegeneración". Reference: PID2019-106509RB-I00. Agency: Agencia Estatal de Investigación, 2019. Amount: 72.600 €. Period: 2020-2023. Principal Investigator (PI).

3.-Title: "MICROFAVAR: Desarrollo de un microscopio de contraste de fase cuantitativa de alta resolución y alta velocidad para la obtención de imágenes en 3D de muestras biológicas" Programme "Agustín de Betancourt" (2019). Agency: Cabildo Insular de Tenerife. Amount: 160.000 €. Period: 2020-2024. PI. In collaboration with Wooptix, an ULL spin-off company.

**C.4. Contracts, technological or transfer merits**

**C.4.1. Contracts**

1.- Memorandum of understanding for Doctorships between University of La Laguna and National Psychiatric Institute "Ramón de la Fuente Muñiz" (Mexico). IP: Angel Acebes and Gloria Benítez King. Period: December 17th, 2021-currently.

2.- Memorandum of understanding between University of La Laguna and The School of Life Science Hamburg gGmbH (Germany). IP: Angel Acebes and Olaf Hellwinkel. Period: October 21st, 2016-currently.

**C.4.2. Patents**

1.- Morales M; Acebes A; Ferrús A; Pintor J; Gasull X. Reference: WO-AVCRI077. "Péptidos para el tratamiento de la hipertensión ocular y/o glaucoma". Date: 11/04/2010. Priority countries: All countries. Partners: University of Barcelona-IDIBAPS-CSIC-CIBIR. License: PRORETINA THERAPEUTICS SL.

2.- Grau B; Acebes A, Ferrús A. Reference: P200603288. "Dispositivo para visualización de material biológico fluorescente". Date: 08/18/2010. Priority countries: Spain. Partner: CSIC.

3.- Ferrús A; Martín Peña A; Acebes A; Rodríguez J; Fernández-Fúnez P. Reference: P200503199. "Utilización de la enzima fosfatidil inositol 3 Kinasa (PI3K) como método para incrementar el número de contactos sinápticos entre neuronas envejecidas". Date: 04/08/2010. Priority countries: Spain. Partner: CSIC.