MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CURRICULUM VITAE (maximum 4 pages)

Part A. PERSONAL INFORMATION

CV date	07/12/2022

First and Family name	Jaime Flexas Sans		
Passport, ID number	43075352D	Age	49
Researcher numbers	Researcher ID	C-1898-2012	
	Orcid code	0000-0002-3069-175X	

A.1. Current position

Name of University	Universitat de les Illes Balears			
Department	Biología (Ciencias)			
Address and Country	Ctra. Valldemossa km. 7.5. Palma. Illes Balears			
Phone number	971172365	E-mail	jaume.flexas@uib.es	
Current position	Catedrático de universidad		From	2019
Espec. cód. UNESCO	241713, 241719			
Keywords	Plant ecophysiology, abiotic stress, photosynthesis			

A.2. Education

PhD	University	Year
Graduate in Biology	Universitat de les Illes Balears	1996
PhD in Biology	Universitat de les Illes Balears	2000

A.3. JCR articles, h Index, thesis supervised…

Number of "sexenios": **4**. Date of the last "sexenio": 2020 (active).
Thesis supervised (last 10 years): **6**.
Total cites (Web of Science): **16697**
Average cites per year (last 5 years): **1897**
Total publications (indexed journals): **200** (including accepted not yet published articles).
Total publications Q1: **132**
12 publications within 1% the most cited papers (Top Papers) in Plant and Animal Science (Wos).
h index: **79**; m index: **3.01**.
Included in the list of 'Highly Cited Researchers' in Plant and Animal Science (WoS), which identifies the researchers with the greatest impact in this category.

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

Dr. Flexas is Professor at the Universitat de les Illes Balears (UIB) since 2001. He was Associate Dean of the Faculty of Sciences and Head of the degree of Biology from 2007 to 2011. From 2006 to present he is responsible for the subject of Biology in the entrance examinations to the University. He has been responsible for the Board of Studies and Quality Assurance committees studies of Biology and tutor of more than 50 undergraduate, graduate and doctoral students, and coordinator of three Erasmus exchange programs (University of Paris-Sud, University of South Bohemia and University of Lisbon). Dr. Flexas teaches regularly in the Degrees of Biology and Agricultural Engineering, as well as in PhD and Master Programs at the UIB and eventually other universities. Dr. Flexas organized as coordinator, and also participated as a teacher, many national postgraduate courses at the UIB, as well as international courses also at the UIB as well as at the University of Concepción (Chile) and Wageningen University (Netherlands). From 2012 to May 2018 he has been Assistant Coordinator of the area of Plant and Animal Biology and Ecology of the National Agency for Project Evaluation (ANEP, later AEI), the state agency responsible for the evaluation of research projects. His research has focused on plant ecophysiology, abiotic stresses, photosynthesis and, particularly, mesophyll conductance. During his scientific career, Dr. Flexas has performed scientific visits in several countries, e.g. Australia (Australian National University, Canberra), Chile (Universidad de Concepción and Universidad Austral of Chile) and France (LURE and Université de Paris-Sud); and also field campaigns, e.g. in Antarctica, Svalbard, Namibia, Andes, China, etc. In addition, he has collaborated with more than 200 researchers from different countries, maintaining a very active collaborative network with many of them, including Joseph Berry (Stanford, USA), Barry Osmond (Australian National University), Hans Lambers (University of Western Australia), Ülo Niinemets (University of Tartu, Estonia), etc. He has supervised eight completed PhD thesis plus four currently underway, as well as the early careers of three post-doctoral researchers plus another two post-doctorates currently in his lab. Dr. Flexas has authored more than 200 publications in international peer-review scientific journals and books, and more than 150 communications in conferences and workshops, collaborating with more than 250 co-authors from more than 30 countries. His best papers are in broad-spectrum journals such as Nature, top-ten journals in

Ecology such as Trends Ecol. Evol. or Ecol. Lett., or in Plant Science including New Phytol., Plant Physiol., Plant Cell Environ., Plant J. and J. Exp. Bot. Overall, > 80% of his publications are in journals included in the first quartile of categories Agriculture (Multidisciplinary), Agronomy, Ecology, Forestry, Horticulture, Multidisciplinary Sciences, Plant Sciences and Remote Sensing. Dr. Flexas has been member of the organizing committee in more than 10 conferences, workshops and lectures. He has been member of the editorial board of twelve scientific journals plus one book series; and regular reviewer for > 70 scientific journals including Nature, PNAS, New Phytologist, J. Ecol., Global Change Biol., Plant Physiology, Plant Cell and Environment, Plant Journal, J. Experimental Botany, etc.

Part C. RELEVANT MERITS

C.1. Publications (including books) – only a selection from the last 5 years is presented

DIRECTLY DERIVED FROM TOPSTEP PROJECT:

Peguero-Pina JJ., Sisó S., Fernández-Marín B., Flexas J., Galmés J., García-Plazaola JI., Niinemets U., Sancho-Knapik D., Gil-Pelegrín E. (2016) Leaf functional plasticity decreases the water consumption without further consequences for carbon uptake in *Quercus coccifera* L. under Mediterranean conditions. Tree Physiology, 36 (3): 356-367.

Tosens T., Nishida K., Gago J., Coopman RE., Cabrera HM., Carriquí M., Laanisto L., Morales L., Nadal N., Rojas R., Talts E., Tomàs M., Hanba Y., Niinemets U., Flexas J. (2016) The photosynthetic capacity in 35 ferns and fern allies: mesophyll CO_2 diffusion as a key trait. New Phytologist, 209 (4): 1576-1590.

Flexas J., Díaz-EspejoA., Conesa M.A., Coopman R.E., Douthe C., Gago J., Gallé A., Galmés J., Medrano H., Ribas-Carbó M., Tomàs M., Niinemets Ü. (2016) Mesophyll conductance to CO_2 and Rubisco as targets for improving intrinsic water use efficiency in C-3 plants. Plant Cell and Environment, 39 (5): 965-982

Gago J., Daloso D.M., Figueroa C.M., Flexas J., Fernie AR., Nikoloski Z (2016) Relationships of Leaf Net Photosynthesis, Stomatal Conductance, and Mesophyll Conductance to Primary Metabolism: A Multispecies Meta-Analysis Approach. Plant Physiology, 171 (1): 265-279

Florez-Sarasa I., Ribas-Carbó M., Fernández Del-Saz N., Schwahn K., Nikoloski Z., Fernie A.R., Flexas J (2016) Unravelling the in vivo regulation and metabolic role of the alternative oxidase pathway in C-3 species under photoinhibitory conditions. New Phytologist, 212 (1): 66-79

Flexas, J. (2016) Genetic improvement of leaf photosynthesis and intrinsic water use efficiency in C-3 plants: Why so much little success? Plant Science, 251: 155-161 (Special Issue: Water-Use Efficiency in Plants).

Fernández Del-Saz N., Florez-Sarasa I., Clemente-Moreno M.J., Mhadhbi H., Flexas J., Fernie A.R., Ribas-Carbó M. (2016) Salinity tolerance is related to cyanide-resistant alternative respiration in Medicago truncatula under sudden severe stress. Plant Cell and Environment, 39 (11): 2361-2369.

Montero R., Ribas-Carbó M., Fernández Del-Saz N., El Aou-ouad H., Berry J.A., Flexas J., Bota J. (2016). Improving respiration measurements with gas exchange analyzers. Journal of Plant Physiology, 207: 73-77.

Xiong D., Flexas J., Yu T., Peng S., Huang J. (2017) Leaf anatomy mediates coordination of leaf hydraulic conductance and mesophyll conductance to CO_2 in *Oryza*. New Phytologist, 213 (2): 572-583.

Xiong, D; Douthe, C; Flexas, J (2018) Differential coordination of stomatal conductance, mesophyll conductance, and leaf hydraulic conductance in response to changing light across species. Plant Cell and Environment 41, 436-450

Carriqui, M; Douthe, C; Molins, A; Flexas, J (2018) Leaf anatomy does not explain apparent short-term responses of mesophyll conductance to light and CO_2 in tobacco. Physiologia Plantarum (in press)

Gerardin, T; Douthe, C; Flexas, J; Brendel, O (2018) .Shade and drought growth conditions strongly impact dynamic responses of stomata to variations in irradiance in *Nicotiana tabacum*. Environmental and Experimental Botany 153, 188-197.

Nadal, M; Flexas, J; Gulias, J (2018) Possible link between photosynthesis and leaf modulus of elasticity among vascular plants: a new player in leaf traits relationships? Ecology Letters 21, 1372-1379

Flexas, Jaume; Carriqui, Marc; Nadal, Miquel (2018) Gas exchange and hydraulics during drought in crops: who drives whom? Journal of Experimental Botany 69, 3791-3795

Flexas, J; Gago, J (2018) A role for ecophysiology in the 'omics' era. The Plant Journal (in press)

NOT DERIVED FROM TOPSTEP BUT VERY RELATED TO THE PRESENT PROPOSAL:

Carriquí, M; Cabrera, HM; Conesa, MA; Coopman, RE; Douthe, C; Gago, J; Galmés, J; Ribas-Carbo, M; Tomás, M; Flexas, J (2014). Diffusional limitations explain the lower photosynthetic capacity

of ferns as compared with angiosperms in a common garden study. Plant, Cell & Environment, 38: 448-460.

Galmés J, Andralojc PJ, Kapralov MV, Flexas J, Keys AJ, Molins A, Parry MAJ, Conesa MA (2014) Environmentally driven evolution of Rubisco and improved photosynthesis and growth within the C-3 genus *Limonium* (Plumbaginaceae). New Phytologist 203:989-999.

Galmés J, Kapralov MV, Andralojc PJ, Conesa MA, Keys AJ, Parry MAJ, Flexas J (2014) Expanding knowledge of the Rubisco kinetics variability in plant species: environmental and evolutionary trends. Plant Cell and Environment 37:1989-2001.

Galmés J, Conesa MA, Díaz-Espejo A, Mir A, Perdomo JA, Niinemets Ü, Flexas J (2014) Rubisco catalytic properties optimized for present and future climatic conditions. Plant Science 226:61-70.

Florez-Sarasa, ID; Ribas-Carbo, M; Del Saz, NF; Schwahn, K; Nikoloski, Z; Fernie, AR; Flexas, J (2016) Unravelling the in-vivo regulation and metabolic role of the alternative oxidase pathway in C-3 species under photoinhibitory conditions. New Phytologist 212: 66-79.

Tosens, T; Nishida, K; Gago, J; Coopman, RE; Cabrera, HM; Carriqui, M; Laanisto, L; Morales, L; Nadal, M; Rojas, R; Talts, E; Tomas, M; Hanba, Y; Niinemets, U; Flexas, J (2016) The photosynthetic capacity in 35 ferns and fern allies: mesophyll CO_2 diffusion as a key trait. New Phytologist, 209: 1576-1590.

Galmés J, Molins A, Flexas J, Conesa MA (2017) Coordination between leaf CO2 diffusion and Rubisco properties allows maximizing photosynthetic efficiency in *Limonium* species. Plant Cell and Environment 40:2081-2094.

Peguero-Pina JJ., Sisó S., Flexas J., Galmés J., García Nogales A., Niinemets U., Sancho-Knapik D., Saz M.A., Gil-Pelegrín E. (2017). Cell-level anatomical characteristics explain high mesophyll conductance and photosynthetic capacity in sclerophyllous Mediterranean oaks. New Phytologist, 214; 585-596.

Han, J; Lei, Z; Flexas, J; Zhang, Y; Carriqui, M; Zhang, W; Zhang, Y. (2018) Mesophyll conductance in cotton bracts: anatomically-determined internal CO_2 diffusion constraints on photosynthesis. Journal of Experimental Botany (in press)

C.2. Research projects and grants

TOMRES. A novel and integrated approach to increase multiple and combined stress tolerance in plants using tomato as a model. Horizon 2020. Project number: 727929-1. Budget: 290.037,50 EUR. Duration: 2017-2020. Responsability: member of the research team.

TOPSTEP. Bases mecanicistas para el trade-off entre la fotosíntesis y la tolerancia al estrés: llenar las lagunas de la biología evolutiva y la biotecnología de plantas. Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia. Project number: CTM2014-53902-C2-1-P. Budget: 278.300,00 €. Duration: 2015-2018. Responsability: co-PI.

WATBIO - Development of improved perennial non-food biomass and bioproduct for water stressed environments. 7COO - COOPERATION (VII Frame Programm) European Commission. Project number: FP7-ECGA-311929. Budget: 299.990,25 EUR. Duration: 2012-2017. Responsability: PI of the subproject.

MEFORE. Regulación de la conductancia del mesófilo al CO_2 en relación con la fotosíntesis y la respiración. Programa Nacional de Fisiología (BFI), Ministerio de Economía y Competitividad (MINECO). Project number: BFU2008-01072/BFI. Budget: 86.875,34 Euros Duration: 2009-2011. Responsability: Co-PI.

C.3. Contracts

Análisis del efecto del tratamiento con Procuaje foliar sobre el intercambio de gases en cítricos. Funding: Edypro S.L. Budget: 2.388,84 EUR. Duration: 2016. Responsability: member of the research team.

Characterization of by-pass photorespiratory mutants. Funding: BayerCrop Science. Budget: 15.000 EUR. Duration: 2011-2012. Responsability: member of the research team.

C.4. Patents

None

C.5. Scientific evaluation

- Associate Editor of Plant Physiology, Plant Journal and Physiologia Plantarum, and member of the Advisory Boards of another ten journals, including New Phytologist and Plant, Cell and Environment.
- Regular reviewer of journals within Plant Science, Ecology, Forestry, Remote Sensing and Multi-Disciplinary Sciences.
- Regular evaluator for ANEP/AEI (Spain), being collaborator from 2013-2018, and H2020 (EU), and eventual evaluator for up to other 15 international agencies.

- Member of the board of final master's and doctoral theses, as well as external evaluator of doctoral theses, at UIB and other universities.

C.6. Institutional responsabilities

- He was Associate Dean of the Faculty of Sciences and Head of the degree of Biology from 2007 to 2011, having thus been the president of the Board of Studies and Quality Assurance committees, as well as the committee elaborating the current curriculum of Biology at UIB.
- From 2006 to present he is responsible for the subject of Biology in the entrance examinations to the University.
- He is current member of the Commission for Research at UIB.

C.7. Teaching responsibilities

Graduate:

- Since 2001 he has taught undergraduate courses on 'Biology', 'Methods in plant Physiology', 'Ecophysiology', and 'Applications of Plant Physiology'. For the last eight years, and currently, he is the responsible professor of the course 'Plant Physiology'.

Postgraduate:

- Since 2001 he has taught several different courses at UIB within the Doctoral program and, later, Master program on 'Biology of plants under Mediterranean conditions'. He has also participated as lecturer in several Doctoral and Master courses in other Spanish universities. He is currently teaching 'Photosynthesis and productivity' in the Master in Biotechnology at UIB.
- Since 2004, training courses on the theory of operation, handling, data exploitation, calibration and maintenance of LI-6400 (gas exchange and fluorescence analyzer) for researchers from different Spanish and international centers.
- Since 1997, teaching and co-organization of several university specialist courses on Viticulture (UIB), Management of Mediterranean vegetation (UIB) and Methods in plant ecophysiology (UIB and international).
- Teaching in several post-graduate courses at universities in Colombia, Chile, the Netherlands, Belgium, and Spain.

C.8. Awards and recognition of research

- In 2002, he received the Spanish National Research Award on Water Relations (Sociedad Española de Fisiología Vegetal, sección de Relaciones Hídricas).
- In 2005 his research group (Biology of Plants under Mediterranean Conditions) was collectively awarded with the Premi Bartomeu Darder de la Societat d'Història Natural de les Illes Balears for the best naturalistic work related to the Balearic Islands (Gulías et al. 2003 The relationship between maximum leaf photosynthesis, nitrogen content and specific leaf area in Balearic endemic and non-endemic Mediterranean species. Annals of Botany 92, 215-222).
- In 2005 he received the Premio Sabater (Sociedad Española de Fisiología Vegetal) to the best young scientist (i.e., under 35) in plant physiology.
- Since September 2005 ISI (Web of Science) identified him as one of the world's Most Cited (i.e., within 1%) authors in the fields of 'Plant and Animal Sciences' and 'Environment / Ecology'.
- In 2006 he was awarded Young Scientist FESPB Award to the best young scientist (i.e., under 35) in plant physiology (Federation of European Societies of Plant Biology).
- Since September 2014 Web of Science has included him every consecutive year in the list of 'Highly Cited Researchers' in Plant and Animal Science.