**Curso 2025/26 **

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| **Categoría Profesional:** | Investigador Científico-CSIC |
| **Cargo:** | IP grupo “Resistencia a estreses bióticos y abióticos” |
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| **Líneas de Investigación** |
| Mejora por resistencia a hongos patógenos principalmente en cerealesMejora por resistencia a estreses abióticos Mejora de la calidad nutricional de la avenaMejora de cereales para adaptación a ambientes mediterráneos |
| **Proyectos de Investigación** |
| Resalto algunos de IP de mas a menos reciente:1. Genomic, molecular and cellular approaches to improve oat crop in Mediterranean environments (GEMCOAT). Ministerio de Ciencia e Innovación PID2022-142574OB-I00. Septiembre 2023 - Septiembre 2026. 212 500, 00 €2. Improving the resilience and sustainability of the Mediterranean agriculture, from the cell to the agrosystem, to overcome the challenges by 2050. Junta de Andalucia. Qualifica Projects QUAL21\_023 IAS. Enero 2023-Dicimebre 2025. 1.000.000, 00 €3. Ayuda Extraordinaria a Centros Excelencia Severo Ochoa” . CSIC. Referencia “20224CEX015”. Marzo 2022- Marzo 2023. 100.000€4. Next generation variety testing for improved cropping on European farmland (InnoVar). European Commision H2020. Proposal number 818144-2. Apr 2019- Oct 2023 Budget for IAS-CSIC 406,016.25 € (Total Budget 7,999,540€)5. International Oat Pan-Genome Consortium (PanOat) for oat research. 26 participants from 12 countries. From 2021-6. Improving resilient oats for adaptation to Mediterranean environments / Mejora de avena resiliente adaptada a ambientes mediterraneos. Ministerio de Ciencia e Innovación PID2019-104518RB-I00. Junio 2020- Mayo 2023. 147.620, 00 €7. Fisiología del Rendimiento y Calidad para la Mejora de Cereales. Ministerio de Economía y Competitividad. Redes de Excelencia. Julio 2017-Julio 2020. 20000€8. Bases de los mecanismos de resistencia a estreses bióticos y abióticos y su interacción para la mejora del cultivo de la avena en el Mediterraneo. Ministerio de Economía y Competitividad AGL2016-78965-R. Dic 2016 - Dic 2019. 211,750 €9. Caracterización de mecanismos de resistencia e interacciones entre estreses bióticos y abióticos para la mejora del cultivo de avena. Ministerio de Economía y Competitividad AGL2013-49687-R. Enero2014-Diciembre2016. 127,050.00€. 10. Estudio de la resistencia a estreses bióticos y abióticos y su interacción. Ministerio de Educación y Ciencia. AGL2010-15936/AGR. Enero 2011 -Dic 2013. 70,000 €. |
| **Publicaciones** |
| Incluyo 10 de los ultimos artículos D1 publicados:1. Wubishet A. Bekele, Raz Avni, Clayton L. Birkett, Asuka Itaya, Charlene P. Wight, Justin Bellavance…., Elena Prats\*, Taner Z. Sen\*, Martin Mascher\*, Nicholas A. Tinker. 2025. Global genomic population structure of wild and cultivated oat reveals signatures of chromosome rearrangements Nature Communications. Accepted. In Press\*These principal investigators contributed equally. Q1/D12. Park, R.F., Boshoff, W.H.P., Cabral, A.L. Chong J, ·Martinelli JA, McMullen MS, Fech JWM, Paczos‑Grzęda E, Prats E, Roake J, Sowa S, Ziems L, Singh D. 2022. Breeding oat for resistance to the crown rust pathogen Puccinia coronata f. sp. avenae: achievements and prospects. Theor Appl Genet 135, 3709–3734 (2022) Q1/D1 3. Canales FJ, Montilla-Bascón G, Gallego-Sánchez LM, Flores F, Rispail N, Prats E. 2021. Deciphering main climate and edaphic components driving oat adaptation to Mediterranean environments. Frontiers in Plant Science vol 12 Pag 2616 doi:10.3389/fpls.2021.780562 Q1/D1 4. Rio, S., Gallego-Sánchez, L.M., Montilla-Bascón, G., Canales,, F.J., Isidro y Sánchez, J., Prats, E. 2021. Genomic prediction and training set optimization in a structured Mediterranean oat population. Theoretical and Applied Genetics 134, 3595–3609. Q1/D1 5. Canales, F.J.; Montilla-Bascón,G.; Bekele,W.A.; Howarth, G.A.; Langdon, T.; Rispail, N.; Tinker, N.A. and Prats E. 2021. Population genomics of Mediterranean oat (A. sativa) reveals high genetic diversity and three loci for heading date. Theoretical and Applied Genetics, 134(7): 2063-2077. Q1/D16. Canales FJ, Rispail N, García-Tejera O, Arbona V, Pérez-de-Luque A, Prats E. 2021. Drought resistance in oat involves ABA-mediated modulation of transpiration and root hydraulic conductivity. Environmental and Experimental Botany, 182, Q1/D17. Canales FJ, Nagel KA, Müller C, Rispail N, Prats E. 2019. Deciphering root architectural traits involved to cope with water deficit in oat. Frontiers in Plant Science. https://doi.org/10.3389/fpls.2019.01558 Q1/D18. Rispail N, Montilla-Bascón G, Sánchez-Martín J, Flores F, Howarth C, Langdon T, Prats E. 2018. Multi-environmental trials reveal genetic plasticity of oat agronomic traits associated with climate variable changes. Frontiers in Plant Science doi: https://doi.org/10.3389/fpls.2018.01358 Q1/D19. Sánchez-Martín J, Canales-Castilla FJ, Tweed JKS, Lee MRF, Rubiales D, Gómez-Cadena A, Arbona V, Mur LAJ, Prats E. 2018. Fatty acid profile changes during water stress in oats suggests a role for jasmonates in coping with drought. Frontiers in Plant Science 2018 Jul 31;9:1077. doi: 10.3389/fpls.2018.01077. Q1/D110. Sanchez-Martin, J., Rispail, N., Flores, F., Emeran, A., Sillero Jc., Rubiales D., Prats, E. 2017. Higher rust resistance and similar yield of oat landraces versus commercial varieties under high temperature and drought. Agronomy for Sustainable development DOI: 10.1007/s13593-016-0407-5 IF2015= 4.14 Q1 / D1 |
| **Otras Actividades Profesionales** |
| **European projects as participant**1. Improving the resistance of legume crops to combined abiotic and biotic stress (289562). EU FP7- KBBE.2011.1.1-02: Integrated approach to studying effects of combined biotic and abiotic stress in crop plants. 2012-2016. 4 017 212 €. 2. Designing InnoVative plant teams for Ecosystem Resilience and agricultural Sustainability. Unión Europea H2020-FOOD/0282. 2017-2021. 4 999 363,50 € **Contracts in the last five years**Managing on-farm biosecurity risk through pre-emptive breeding: the case of rust in field pea and lentil. Curtin University (Australia). 2014-2018. IP Diego Rubiales. 243,197.28 €**Comitees and International representation/responsabilities**- International Pan-Genome Oat Consortium for oat research. PanOat.- National Representative of ECPGR of European Union. From Junio 2014- National Representative of Management Committee of COST Action: FA1208. 2014-2018- Technical Expert Groups from MINECO, FCT - International panels as expert in Agriculture for FCT (Portugal) and nationals ANEP, DEVA- Expert for Evaluation of ERC project 2023 (European Research Council-EU)**Organization of i+d+i activities**- Coordination and leadership of an Advanced Specialised Course of International Doctorate School on AgriFood eidA3b 2013-2014-2015-2017- Organization of II Spanish Symposium on Physiology and Breeding of Cereals (SEFiMeC II). President of the Scientific and Organising Committee.**i+d+i Management**- Leader and Coordinator of the Research Group AGR-253 “Breeding for Resistance to biotic and Abiotic Stresses” of Junta de Andalucía. From 2009 up to date- Expert Evaluator for ANEP, OTKA, FONDECYT, ACIE organisations **Teaching and Supervising**- 6 PhD thesis students - Undergraduate programs, ScienceIES, PIIISA, FidiCiencia - Teaching on Master on Molecular, Celular and Genetic Biotechnology From 2009 - Teaching on Master on Plant Production, Protection and Breeding: From 2009 **Dissemination activities**- IAS CSIC PhD workshops. 2016-2022 - Science Walks. Abril 2019, 2023- European Researchers Night. 2019- Twitter of our Research Group “CeresLab” launched on 2021 |