

CV of the Researcher

1. Personal information

Family name: **Fuentes-Pérez** First name: **Juan Francisco** Date of birth: 18/12/1985
 Research unique identifier: ResearcherID: N-3312-2015 Orcid ID: 0000-0003-2384-9085
 Web page: [ResearchGate](#) – [Google scholar](#)

2. Education

01/10/2014 – 14/05/2019 Doctor of Philosophy in Information and Communication Technology (TTU, Estonia)
 Topic: [Flow Sensing with Pressure Sensor-Based Artificial Lateral Lines: from the Laboratory to the Field](#). *Marie Skłodowska-Curie actions research fellowships*.
 Supervisors: Prof. Kruusmaa and Dr. Tuhtan.

01/10/2013 – 18/12/2017 Doctor of Philosophy in Conservation and Sustainable Use of Forest Systems (UVa, Spain). Topic: [Hydraulic modelling of fishways under variable hydrodynamic scenarios](#).
 10 - *Cum Laude*. Supervisors: Prof. Sanz-Ronda and Prof. Martínez de Azagra.
Extraordinary PhD Award 2019.

01/09/2012 – 10/07/2013 Master Degree in Research in Engineering for Agroforestry Development (UVa, Spain).
Outstanding Graduation Award.

01/09/2009 – 16/07/2012 Forestry Engineering (UVa, Spain).

01/09/2004 – 30/09/2009 Technical Forestry Engineering (UVa, Spain). *Award to the best dissertation*.

3. Working experience

01/09/2021 – ... **Marie Curie Postdoctoral researcher** at University of Valladolid (UVa).
www.smartfishways.com

01/09/2019 – 31/08/2021 PhD Engineer at Itagra.ct.

01/11/2019 – 15/02/2020 Associate Professor, Department of Agricultural and Forestry Engineering (University of Valladolid).

01/09/2014 – 01/09/2019 Researcher at Centre for Biorobotics, Tallinn University of Technology (TTU).

01/09/2010 – 01/09/2014 Engineer/Researcher at GEA-Itagra.ct, University of Valladolid (UVa). During my work as Engineer, I participated in the design of more than 80 fish passages: [Complete list](#).

4. Publications

4.1. Journal articles (Total: 43 - JCR: 38 [Q1: 13 - Q2: 16 - Q3: 4 - Q4: 5])

2022

- **Fuentes-Pérez, J.F.**, Quaresma, A.L., Pinheiro, A., Sanz-Ronda, F.J., 2022. OpenFOAM vs FLOW-3D: A comparative study of vertical slot fishway modelling. *Ecological Engineering*, 174, 106446. JCR (2020) = 4.035 (Q1).

2021

- Sanz-Ronda, F.J., Bravo-Córdoba, F.J., García-Vega, A., Valbuena-Castro, J., Martínez-de-Azagra, A.M., **Fuentes-Pérez, J.F.**, 2021. Fish Upstream Passage through Gauging Stations. Experiences with Iberian Barbel in Flat-V Weirs. *MDPI Fisheries*. JCR (2020) = 2.385 (Q2).
- Bravo-Córdoba, F.J., Valbuena-Castro, J., García-Vega, A., **Fuentes-Pérez, J.F.**, Ruiz-Legazpi, J., Sanz-Ronda, F.J., 2021. Fish passage assessment in stepped fishways: Passage success and transit time as standardized metrics. *Ecological Engineering*, 162, 106172. JCR (2020) = 4.035 (Q1).
- Monoli, C., **Fuentes-Pérez, J. F.**, Cau, N., Capodaglio, P., Galli, M., Tuhtan, J. A., 2021. Land and Underwater Gait Analysis Using Wearable IMU. *IEEE Sensors Journal*, 21(9), 11192-11202. JCR (2020) = 3.301 (Q2).
- Bravo-Córdoba, F.J., **Fuentes-Pérez, J.F.**, Valbuena-Castro, J., Martínez de Azagra-Paredes, A., Sanz-Ronda, F.J. 2021. Turning Pools in Stepped Fishways: Biological Assessment via Fish Response and CFD Models. *Water*, 13(9), 1186. JCR (2020) = 3.103 (Q2).
- **Fuentes-Pérez, J.F.**, Sanz-Ronda, F.J. 2021. A Custom Sensor Network for Autonomous Water Quality Assessment in Fish Farms. *Electronics*, 10(18), 2192. JCR (2020) = 2.387 (Q2).
- **Fuentes-Pérez, J.F.**, García-Vega, A., Bravo-Córdoba, F.J., Sanz-Ronda, F.J. 2021. A Step to Smart Fishways: An Autonomous Obstruction Detection System Using Hydraulic Modeling and Sensor Networks. *Sensors* 2021, 21(20), 6909. JCR (2020) = 3.576 (Q1).

- García-Vega, A., **Fuentes-Pérez, J.F.**, Leunda, P.M., Ardaiz, J., Sanz-Ronda, F.J. 2021. Upstream migration of anadromous and potamodromous brown trout: patterns and triggers in a 25-year overview. *Hydrobiologia*. JCR (2020) = 2.694 (Q2).
- García-Vega, A., **Fuentes-Pérez, J.F.**, Fukuda, S., Kruusmaa, M., Sanz-Ronda, F.J., Tuhtan, J.A. 2021. Artificial lateral line for aquatic habitat modelling: An example for *Lefua echigonia*. *Ecological Informatics*, 65, 101388. JCR (2020) = 3.142 (Q2).
- García-Vega, A., **Fuentes-Pérez, J.F.**, Bravo-Córdoba, F.J., Ruiz-Legazpi, J., Valbuena-Castro, J., Sanz-Ronda, F.J. 2021. Pre-reproductive movements of potamodromous cyprinids in the Iberian Peninsula: When environmental variability meets semipermeable barriers. *Hydrobiologia*, 1-22. JCR (2020) = 2.694 (Q2).
- Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, García-Vega, A., Bravo-Córdoba, F.J. 2021. Fishways as Downstream Routes in Small Hydropower Plants: Experiences with a Potamodromous Cyprinid. *Water*, 13(8), 1041. JCR (2020) = 3.103 (Q2).

2020

- Valbuena-Castro, J., **Fuentes-Pérez, J.F.**, García-Vega, A., Bravo-Córdoba, F.J., Ruiz-Legazpi, J., de Azagra Paredes, A. M., Sanz-Ronda, F.J., 2020. Coarse fishway assessment to prioritize retrofitting efforts: A case study in the Duero River basin. *Ecological Engineering*, 155, 105946. JCR (2020) = 4.035 (Q1).
- Boavida, I., Díaz-Redondo, M., **Fuentes-Pérez, J.F.**, Hayes, D.S., Jesus, J., Moreira, M., Belmar, O., Vila-Martínez, N., Palau-Nadal, A., Costa, M.J., 2020. Ecohydraulics in the global context of river flow alterations and impacts for freshwater fish. *Limnetica*. JCR (2020): IF = 1.431 (Q3).
- Meurer, C., **Fuentes-Pérez, J.F.**, Schwarzwalder, K., Ludvigsen, M., Sorensen A.J., Kruusmaa, M., 2020. 2D Estimation of Velocity Relative to Water and Tidal Currents based on Differential Pressure for Autonomous Underwater Vehicles. *IEEE Robotics and Automation Letters*. JCR (2020) = 3.741 (Q2).

2019

- Ruiz Legazpi, J., Sanz-Ronda, F.J., Bravo-Córdoba, F.J., **Fuentes-Pérez, J.F.**, 2019. Capacidad de nado de ciprínidos potamódromos ibéricos. Experimentación en el canal de nado de Vadocondes. *Cuadernos de la Sociedad Española de Ciencias Forestales* 45(1): 271-278 (2019).
- García-Vega, A., Sanz Ronda, F.J., **Fuentes-Pérez, J.F.**, Leunda Urretabizkaia, P.M., 2019. Influencia del régimen de caudales en los movimientos reproductivos de la trucha común en la Península Ibérica. *Cuadernos de la Sociedad Española de Ciencias Forestales* 45(1): 251-260 (2019).
- Valbuena-Castro, J., Sanz-Ronda, F.J., García-Vega, A., **Fuentes-Pérez, J.F.**, Bravo-Córdoba, F.J., Ruiz-Legazpi, J., Navas Pariente, A., Martínez de Azagra Paredes, A., 2019. Metodología “AEPS” aplicada a la evaluación de escalas para peces en la cuenca hidrográfica del río Duero. *Cuadernos de la Sociedad Española de Ciencias Forestales* 45(1): 251-260 (2019).
- Meurer, C., **Fuentes-Pérez, J.F.**, Palomeras, N., Carreras, M., Kruusmaa, M. (2019). *Differential Pressure Sensor Speedometer for AUV velocity estimation*. *IEEE Journal of Oceanic Engineering*. JCR (2019): IF = 3.005 (Q1).
- Costa, M.J., **Fuentes-Pérez, J.F.**, Boavida, I., Tuhtan, J.A., Pinheiro, A.N., 2019. Fish under pressure: examining behavioural responses of Iberian barbel under simulated hydropeaking with instream structures. *Plos One*. JCR (2019): IF = 2.74 (Q2).
- **Fuentes-Pérez, J.F.**, Tuhtan, J.A., Eckert, M., Romão, F., Ferreira, M.T., Kruusmaa, M., Branco, P., 2019. Hydraulics of vertical slot fishways: Non-uniform profiles. *Journal of Hydraulic Engineering*. JCR (2019): IF = 1.993 (Q2).

2018

- **Fuentes-Pérez, J.F.**, Eckert, M., Tuhtan, J.A., Ferreira, M.T., Kruusmaa, M., Branco, P., 2018. Spatial preferences of Iberian barbel in a vertical slot fishway under variable hydrodynamic scenarios. *Ecological Engineering*. JCR (2018): IF = 3.406 (Q2).
- Naveed, M., **Fuentes-Pérez, J.F.**, Tuhtan, J. A., Toming, G., Musall, M., Kruusmaa, M., 2018. Map-based localization and loop-closure detection from a moving underwater platform using flow features. *Autonomous Robots*. JCR (2018): IF = 3.634 (Q1).
- Ruiz-Legazpi, J., Sanz-Ronda, F.J., Bravo-Córdoba, F.J., **Fuentes-Pérez, J.F.**, Castro-Santos, T., 2018. Influencia de factores ambientales y biométricos en la capacidad de nado del barbo ibérico (*Luciobarbus bocagei* Steindachner, 1864), un ciprínido potamódromo endémico de la Península Ibérica. *Limnetica*. JCR (2018): IF = 0.574 (Q4).
- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Toming, G., Schneider, M., Schwarzenberger, R., Schletterer, M., Kruusmaa, M., 2018. Man-made flows from a fish's perspective: autonomous classification of turbulent fishway flows with field data collected using an artificial lateral line. *Bioinspiration & Biomimetics*. JCR (2018): IF = 3.13 (Q1)

- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Toming, G., Schneider, M., Schletterer, M., **2018**. Ein Fisch ist kein Punkt: Analyse von Strömungssignaturen in Fischaufstiegsanlagen mit einem Seitenlinien Sensor. *Wasserwirtschaft*. JCR (2018): IF = 0.202 (Q4)
- **Fuentes-Pérez, J.F.**, Meurer, C., Tuhtan, J.A., Kruusmaa, M., **2018**. Differential Pressure Sensors for Underwater Speedometry in Variable Velocity and Acceleration Conditions. *IEEE Journal of Oceanic Engineering*. JCR (2017): IF = 2.567 (Q1).
- **Fuentes-Pérez, J.F.**, Silva, A.T., Tuhtan, J.A., García-Vega, A., Carbonell-Baeza, R., Musall, M., Kruusmaa, M., **2018**. 3D modelling of non-uniform and turbulent flow in vertical slot fishways. *Environ. Model. Softw.*, 99, 156-169. JCR (2018): IF = 4.552 (Q1).

2017

- Schletterer, M., Füreder, L., Kuzovlev, V.V., **Fuentes-Pérez, J.F.**, Tuhtan, J.A. **2017**. Classification of benthic biocenoses of the lowland River Tudovka (Tver region, Russia) using community features. *Geography, Environment, Sustainability*, 10(2):40-56.
- Thumser, P., Haas, C., Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Toming, Gert. **2017**. RAPTOR-UAV: Real-Time Particle Tracking in Rivers using an Unmanned Aerial Vehicle. *Earth Surface Processes and Landforms*. JCR (2017): IF = 3.722 (Q1).
- **Fuentes-Pérez, J.F.**, García-Vega, A., Sanz-Ronda; F.J., Martínez de Azagra, A. **2017**. Villemonte's Approach: A General Method for Modeling Uniform and Non-Uniform Performance in Stepped Fishways. *Knowledge and Management of Aquatic Ecosystems*, 418, 23. JCR (2017): IF = 1.525 (Q2).
- García-Vega, A., Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.** **2017**. Seasonal and daily upstream movements of brown trout *Salmo trutta* in an Iberian regulated river. *Knowledge and Management of Aquatic Ecosystems*, 418, 9. JCR (2017): IF = 1.525 (Q2).
- Chen, K., Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Toming, G., Strokina, N., Kämäräinen, J.K., Kruusmaa, M. **2017**. Estimation of Flow Turbulence Metrics with a Lateral Line Probe and Regression. *IEEE Transactions on instrumentation and Measurement*, 66(4): 651 – 660. JCR (2017): IF = 2.794 (Q1).
- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Toming, G., Kruusmaa, M. **2017**. Flow Velocity Estimation Using a Fish-Shaped Lateral Line Probe with Product-Moment Correlation Features and a Neural Network. *Flow Measurement and Instrumentation*, 54: 1-8. JCR (2017): IF = 1.407 (Q3).

2016

- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Strokina, N., Toming, G., Musall, M., Noack, M., Kämäräinen, J.K., Kruusmaa, M. **2016**. Design and application of a fish-shaped lateral line probe for flow measurement. *Review of Scientific Instruments*, 87: 045110. JCR (2016): IF = 1.515 (Q3).
- Sanz-Ronda, F.J., Bravo-Córdoba, F.J., **Fuentes-Pérez, J.F.**, Castro-Santos, T. **2016**. Ascent ability of brown trout, *Salmo trutta*, and two Iberian cyprinids -Iberian barbel, *Luciobarbus bocagei*, and northern straight-mouth nase, *Pseudochondrostoma duriense*- in a vertical slot fishway. *Knowledge and Management of Aquatic Ecosystems*, 417, 10. JCR (2016): IF = 1.217 (Q3).
- Strokina, N., Kämäräinen, J. K., Tuhtan, J. A., **Fuentes-Pérez, J.F.**, Kruusmaa, M. **2016**. Joint estimation of bulk flow velocity and angle using a lateral line probe. *IEEE Transactions on instrumentation and Measurement*, 65(3): 601 – 613. JCR (2016): IF = 2.456 (Q1).
- **Fuentes-Pérez, J.F.**, Sanz-Ronda, F.J., Martínez de Azagra, A., García-Vega, A. **2016**. Non-uniform hydraulic behavior of pool-weir fishways: a tool to optimize its design and performance. *Ecological Engineering*, 86:5-12. JCR (2016): IF = 2.914 (Q2).

2015

- **Fuentes-Pérez, J.F.**, Tuhtan, J. A., Carbonell-Baeza, R., Musall, M., Toming, G., Muhammad, N., Kruusmaa, M. **2015**. Current velocity estimation using a lateral line probe. *Ecological Engineering*, 85: 296-300. JCR (2015): IF = 2.740 (Q2).
- **Fuentes-Pérez, J.F.**, Navarro Hevia, J., Ruiz Legazpi, J., García-Vega, A. **2015**. Inventario y caracterización morfológica de lagos y lagunas de alta montaña en las provincias de Palencia y León (España). *Pirineos*, 170: e013. SJR (2015): IF = 0.184 (Q4).
- Musall, M., Oberle, P., Carbonell Baeza, R.; Nestmann, F., **Fuentes-Pérez, J.F.**, Tuhtan, J.A. **2015**. Beitrag zu detaillierten Analysen der Hydraulik von Schlitzpässen. *WasserWirtschaft*, 7/8:67 – 72. JCR (2015): IF = 0.102 (Q4).

2014

- **Fuentes-Pérez, J.F.**, Sanz-Ronda; F.J., Martínez de Azagra, A., García-Vega, A. **2014**. Modeling water depth

distribution in vertical slot fishways under uniform and non- uniform scenarios. *Journal of Hydraulic Engineering*, 140(10): 06014016. JCR (2014): IF = 1.621 (Q1).

- García Vega, A., Sanz Ronda, F.J., **Fuentes-Pérez, J.F.**, Navarro Hevia, J., Martínez Rodríguez, A. **2014**. Bases metodológicas para el cálculo de muros entramados de madera con vegetación o muros Krainer. *Informes de la Construcción*, 66 (533): e012. JCR (2014): IF = 0.273 (Q4).

2013

- Sanz-Ronda, F.J., Bravo-Córdoba, F.J., **Fuentes-Pérez, J.F.**, Ruiz-Legazpi, J., García-Vega, A., Ramos-González, N., Salgado-González, V., Martínez de Azagra, A. **2013**. Pasos para peces: escalas y otros dispositivos de paso. *Notas técnicas del CIREF. N° 7*.

4.2. Conferences

- **Fuentes Pérez, J.F.**, 2021. Sensorización de piscifactorías en el marco del proyecto Smart CRD Digital – Invited speaker. Internet de las Cosas en la gestión de los recursos naturales y la biodiversidad (Cesefor). 8-9 June 2021. Soria, Spain. <https://youtu.be/hd4GD0gQcTA>
- Tsubaki R., **Fuentes Pérez, J.F.**, Kawamaru, S., Tuhtan, J.A., Sumitomo, K., 2020. Bedload transport measurement in a Japanese gravel river using synchronized hydrodynamic and hydroacoustic pressure sensing. 10th Conference on Fluvial Hydraulics - River Flow 2020 (IAHR). 6-17 July 2020. Delft, Netherlands.
- Tuhtan, J.A., Kruusmaa, M., Alexander, A., **Fuentes Pérez, J.F.**, 2020. Multiscale change detection in a supraglacial stream using surface drifters. 10th Conference on Fluvial Hydraulics - River Flow 2020 (IAHR). 6-17 July 2020. Delft, Netherlands.
- **Fuentes-Pérez, J.F.**, Tuhtan, J.A., Branco, P., Eckert, M., Ferreira, M.T., Kruusmaa, M., **2018**. A 3D data-driven approach to study the hydrodynamic preferences of fish in fishways. International Symposium of Ecohydraulics 2018. 19-24 August 2018. Tokyo, Japan.
- Costa, M.J, **Fuentes-Pérez, J.F.**, Boavida, I., Tuhtan, J.A., Pinheiro, A.N., **2018**. Behaviour responses of Iberian barbel to q simulated hydropeaking event: effects of instream structures and fluid body interactions. International Symposium of Ecohydraulics 2018. 19-24 August 2018. Tokyo, Japan.
- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Angerer, T., Schletterer, M., **2018**. Monitoring upstream fish passage through a bypass pipe and drop at the fish lift Runserau: comparing dynamic pressure measurements on live fish with passive electronic fish surrogates. International Symposium of Ecohydraulics 2018. 19-24 August 2018. Tokyo, Japan.
- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, **2018**. How do fish sense the flow?. International Symposium of Ecohydraulics 2018. 19-24 August 2018. Tokyo, Japan.
- **Fuentes-Pérez, J.F.**, Tuhtan, J.A., **2018**. Measuring flow complexity from fish perspective: Challenges and opportunities to impact assessment. XIX Conference of the Iberian Association of Limnology. 24-29 June 2018. Coimbra, Portugal.
- García-Vega, A., Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, Bravo, F.J., Leunda, P., **2018**. Influencia del regimen de caudales en los movimientos reproductivos de la trucha común. IV reunión del Grupo de Hidrología Forestal de la SECF. 26-28 June 2018. Palencia, Spain.
- Ruiz, J., Sanz-Ronda, F.J., Bravo, F.J., **Fuentes-Pérez, J.F.**, **2018**. Capacidad de nado de ciprínidos potamódromos ibéricos. Experimentación en el canal de nado de Vadocondes. IV reunión del Grupo de Hidrología Forestal de la SECF. 26-28 June 2018. Palencia, Spain.
- Sanz-Ronda, F.J., Bravo, F.J., Ruiz, J., **Fuentes-Pérez, J.F.**, Valbuena, J., González, N., Smart, R., Navas, A., García-Vega, A., **2018**. Localización y atracción de pasos para peces. Experiencias en la cuenca del Duero con ciprínidos potamódromos ibéricos. IV reunión del Grupo de Hidrología Forestal de la SECF. 26-28 June 2018. Palencia, Spain.
- Valbuena, J., Sanz-Ronda, F.J., García-Vega, A., **Fuentes-Pérez, J.F.**, Bravo, F.J., Ruiz, J., Navas, A., Martínez de Azagra, A., **2018**. Metodología "AEPS" aplicada a la evaluación de escalas para peces en la cuenca hidrográfica del río Duero. IV reunión del Grupo de Hidrología Forestal de la SECF. 26-28 June 2018. Palencia, Spain.
- **Fuentes-Pérez, J.F.**, Muhammad, N., Tuhtan, J.A., Carbonell-Baeza, R., Musall, M., Toming, G., Kruusmaa, M., **2017**. Map-based localization in structured underwater environment using simulated hydrodynamic maps. IEEE Robio. 5-8 December. Macau, China.
- Eckert, M., **Fuentes-Pérez, J.F.**, Tuhtan, J.A., Ferreira, T., Branco, P. **2017**. Non-uniform-flow regime condition effects on fishpassage success in an experimental pool-type fishway. Symposium for European Freshwater Sciences 2017. 2-7 July 2017, Olomouc, Czech Republic.
- **Fuentes-Pérez, J.F.**, Tuhtan, J.A., Eckert, M., Ferreira, T., Kruusmaa, M. **2017**. Sensing like a fish using an

artificial lateral line probe. Symposium for European Freshwater Sciences 2017.

- **Fuentes-Pérez, J.F.**, Tuhtan, J.A., Kruusmaa, M. **2017**. Artificial lateral lines: Assessing fish passages sensing like a fish. *Fish Passage 2017*. Oregon State University (Corvallis, Oregon). 19-21 June 2017. Oregon, USA.
- Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Schletterer, M., Kruusmaa, M. **2017**. Pressure Laplacian Measurement with a Bioinspired Fish-Shaped Lateral Line Probe. *HydroSenSoft – IAHR*. 1-3 March 2017. Madrid, Spain.
- Schletterer, M., Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Kruusmaa, M. **2017**. More than depth: developing pressure-sensing systems for aquatic environments. *HydroSenSoft – IAHR*. 1-3 March 2017. Madrid, Spain.
- **Fuentes-Pérez, J.F.**, Kalev, K., Tuhtan, J.A., Kruusmaa, M. **2016**. Differential pressure sensor based speedometry for underwater vehicles: Preliminary results. *Autonomous Underwater Vehicles 2016*. IEEE OES. 6-9 November 2016. Tokyo, Japan.
- Fukuda, S., Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Schletterer, M., Kruusmaa, M. **2016**. Random Forests Hydrodynamic Flow Classification in a Vertical Slot Fishway using a Bioinspired Artificial Lateral Line Probe. *9th ICIRA*. Springer. 22-24 August 2016. Tokyo, Japan.
- Sanz-Ronda, F.J., Bravo-Córdova, F.J., Ruiz-Legazpi, J., **Fuentes-Pérez, J.F.**, García-Vega, A., Valbuena-Castro, J. González-Alemán, N.J. **2016**. Evaluate for understanding. The case of the most assessed fishway in Spain. *VI Iberian congress of Ichthyology*. 21-24 June 2016. Murcia, Spain.
- Bravo-Córdova, F.J., Sanz-Ronda, F.J., Ruiz-Legazpi, J., **Fuentes-Pérez, J.F.**, García-Vega, A. **2016**. Comparing ascent ability for Iberian Barbel, *Luciobarbus bocagei*, in two of the most common fishway types. *VI Iberian congress of Ichthyology*. 21-24 June 2016. Murcia, Spain.
- Tuhtan J.A., **Fuentes-Pérez, J.F.**, Toming, G., Kruusmaa, M., Strokina, N., Kämäräinen, J.K., Musall, M., Carbonell-Baeza, R., Noack, M., Schletterer, M. **2016**. Ecohydraulic flow sensing and classification using a lateral line probe. *11th International Symposium on Ecohydraulics*. IHAR. 7-12 February 2016. Melbourne, Australia.
- Sanz-Ronda, F.J., Bravo-Córdova, F.J., **Fuentes-Pérez, J.F.**, Ruiz-Legazpi, J. **2015**. The most evaluated fishway in Spain: A new lesson every year. *Fish Passage 2015*. 20-25 Jun 2015. Groningen, The Netherlands.
- Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, Bravo-Córdova, F.J., Ruiz-Legazpi, J. **2015**. Escaleras para peces con dos entradas. Experiencias en el río Duero. *Restauraríos II*. 9-11 June 2015. Pamplona, Spain.
- Bravo-Córdova, F.J., Sanz-Ronda, F.J., Ruiz-Legazpi, J., **Fuentes-Pérez, J.F.**, Salgado-González, V. **2014**. Ecohydraulics monitoring and improvement of fish passes in the Duero Basin: the case of river Tormes in Santibáñez de Béjar (Salamanca). *V Iberian congress of Ichthyology*. 24-27 June 2014. Lisboa, Portugal.
- Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, Salgado-González, V. **2013**. Desarrollo de un programa informático para la estimación de parámetros poblacionales de peces en ríos: Dimp 1.0. *Congreso Forestal Español*. 10-14 September 2013. Vitoria-Gazteiz, Spain.
- Bravo-Córdova, F.J., Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, Ramos-González, N. **2012**. Eficiencia de ascenso de la trucha común (*Salmo trutta*) en una escala de peces de hendiduras verticales: La influencia del sexo, la edad, el caudal y las condiciones de experimentación. *IV Iberian congress of Ichthyology*. 17-20 July 2012. Gerona, Spain.
- García-Vega, A., Sanz-Ronda, F.J., **Fuentes-Pérez, J.F.**, Navarro-Hevia, J. y Martínez-Rodríguez, A. **2011**. Propuesta metodológica para el diseño de muros Krainer. *Restauraríos I*. 18-20 October 2011. León, Spain.
- Sanz-Ronda, F.J., García-Vega, A., **Fuentes-Pérez, J.F.** **2011**. Evaluación hidráulica y biológica de un paso naturalizado (río artificial) en el Marín (río Tormes, Salamanca). *Restauraríos I*. 18-20 October 2011. León, Spain.

4.3. Book chapters

- Sanz-Ronda, F.J., Bravo-Córdova, F.J., **Fuentes-Pérez, J.F.**, *et al.* 2018. Pasos para peces: escalas y otros dispositivos. In: Hacia un agua Justa. Universidad de Valladolid. ISBN: 979-84-8448-942-9.
- Rost, U., Weibel, U., Wüst, S., Haupt, O., *et al.* 2017. Forschung und Technik, pp.491-602. In: Biologische Durchgängigkeit von Fließgewässern. Springer. ISBN: 978-3-658-13990-2.
- Fukuda, S., Tuhtan, J.A., **Fuentes-Pérez, J.F.**, Schletterer, M., Kruusmaa, M. 2017. Random Forests Hydrodynamic Flow Classification in a Vertical Slot Fishway Using a Bioinspired Artificial Lateral Line Probe. *Intelligent Robotics and Applications*. ISBN: 978-3-319-43518-3.

4.4. Research monographs

- **Fuentes-Pérez, J.F.** **2019**. Flow Sensing with Pressure Sensor-Based Artificial Lateral Lines: from the Laboratory to the Field. PhD Thesis. Tallinn University of Technology.
- **Fuentes-Pérez, J.F.** **2017**. Hydraulic modelling of fishways under variable hydrodynamic scenarios. PhD

Thesis. University of Valladolid. Mark: *Cum laudem* (10).

- **Fuentes-Pérez, J.F. 2013.** Approach to the hydraulics of vertical slot fishways (in Spanish). Master Degree in Research in Engineering for Agroforestry Development Dissertation. University of Valladolid. Mark: Outstanding (10).
- **Fuentes-Pérez, J.F. 2012.** Development of a methodological basis for the design of fishways. Practical application in a computer program (in Spanish). Forestry Engineering Dissertation. University of Valladolid. Mark: Outstanding with honour (10).
- **Fuentes-Pérez, J.F. 2009.** Hydrogeomorphological characterization of high mountain lakes in the provinces of Palencia and León (in Spanish). Technical Forestry Engineering Dissertation. University of Valladolid. Outstanding with honour (9.6).

5. Technological results

- **2021.** MS Ultra: Ultrasound autonomous node for water level measurements.
- **2021.** Underwater fauna counter. Protected: U 202131567
- **2021.** MS Quality: Low cost sensor network for real time water quality assessment.
- **2020.** Underwater probe for physicochemical parameter registration. Protected: U 202032478
- **2019.** *Smart Particle*: River drifter able to transmit velocity and absolute orientation data in real time.
- **2018.** *DPSS V2*: Small differential pressure sensor based lateral line for speedometry in AUVs, with data logging and battery.
- **2017-2018.** *PressureTags*: Fish tags for barotrauma assessment in hydropower plants.
- **2017.** *Pressurduino*: Sensor for fish barotrauma assessment in hydropower plants.
- **2016-2017.** *SPARUS ALL (DPSS VI)*: Differential pressure sensor based lateral line for speedometry in AUV.
- **2016.** *iRon*: First differential pressure sensor artificial lateral line.
- **2016.** *D-Box*: Compact field-ready turbulent flow measurement device
- **2015.** *B-Box*: First modular lab prototype that demonstrates the possibility of using differential pressure sensor for flow speed estimation.
- **2011.** *Escalas 2012*: Software for designing, dimensioning and modelling of fishways. Protected: VA-297-2013
- **2009.** *DimP 1.0*: Software for calculating fish population metrics.

6. Research secondments

- Research expedition to NTNU AMOS, Trondheim Norway; Responsible: Prof. Asgeir J. Sørensen; Dates: **03/12/2018 – 07/12/2018**. Topic: Experiments in the Applied Underwater Robotics Laboratory (AURL-Lab) testing out pressure sensors for flow field characterization on unmanned underwater vehicles
- Research expedition to Civil Engineering, Architecture and Georesources Department (DECivil), Instituto Superior Técnico, Universidad de Lisboa (Portugal); Responsible: Prof. Antonio Pinheiro; Dates: **03/09/2017 – 16/09/2017**. Topic: iRON Test
- Research expedition to Computer Vision and Robotics Institute, CIRS, Universidad de Girona (Spain); Responsible: Prof. Marc Carreras; Dates: **18/04/2017 – 9/05/2017**. Topic: SPARUS ALL Test
- Research expedition to Centro de Estudos Florestais, Instituto Superior de Agronomia, Universidad de Lisboa (Portugal); Responsible: Paulo Branco; Dates: **26/11/2016 – 10/12/2016**. Topic: iRON Test
- Research expedition to Laboratory of Water Resources Planning, Division of Environmental and Agricultural Engineering, Tokyo University of Agriculture and Technology, Tokyo (Japan); Responsible: Dr. Shinji Fukuda; Dates: **22/10/2016 – 06/11/2016**. Topic: iRON Test
- Research expedition to Institute of Water and River Basin Management, Karlsruhe Institute of Technology, Karlsruhe (Germany); Responsible: Dr. Mark Musall. Dates: **19/04/2015 – 30/04/2015**. Topic: ALL Test

7. Participation in international and national competitive research projects

For a list of industrial projects, contact the researcher.

Funding	Role	Project	Date
160932.48 €	PI	“ Smart Fishways ” Adapting fishways to hydrological and climatic uncertainty. Funding agency: EU Marie Curie Program (H2020 - ID: 101032024).	2021- ...
10,000.00 €	Co-PI	LANZADERA Fish Track NT20 67/217791. Funding agency: Junta de Castilla y León	2021
2561306 €	Engineer/Researcher	“ DIVAQUA ” project - Project code: LIFE18	2019-2023

		NAT/ES/000121. Funding agency: EU.	
7171550.16 €	Researcher	“ FIThydro ” Project (Fish friendly Innovative Technologies for Hydropower). Funding agency: European Union (H2020)	2016-2020
55000.00 €	Researcher	“ FFG Barotrauma ” Project (Sensor development to assess barotrauma impact in fish. Funding Agency: Public administration of Germany.	2016-2017
95400.00 €	Researcher	“ FishView ” Project (Assessing fish passability using a robotic fish sensor and hydrodynamic imaging). Funding agency: BONUS program (UE)	2014-2017
3610611.60 €	Researcher/Grant holder	“ ROBOCADEMY ” Project (European Academy for Marine and Underwater Robotics). Funding agency: EU Marie Curie Program (7 th Framework Programme).	2014-2017
3424250.00 €	Researcher	“ SEGURA RIVERLINK ” Project. Ref.: LIFE12 ENV/ES/001140. Funding agency: EU.	2013-2017
48484.90 €	Researcher	“Evaluation of the swimming ability of Iberian fish fauna”. Funding agency: Junta de Castilla y León.	2010-2011

8. Organisation of Courses, Conferences and Seminars

- Connecting rivers: Fishway assessment. Word Fish Migration Day. Organizers: GEA-Ecohydraulics, ITAGRA.CT and Department of Agroforestry Engineering of ETSIIAA (UVa). Palencia (Spain), **19/10/2020**.
- Sixth course of fishways: design, monitoring and evaluation (25-40 hours) Organizers: Department of Agroforestry Engineering ETSIIAA (Palencia), University of Valladolid in collaboration with ITAGRA. **10-12/09/2019**.
- DIY Sensing and Logging with Open Hardware. International Symposium of Ecohydraulics, **19/08/2018**. Tokyo, Japan.
- Fish migration in Spain: Challenges and experiences (5 hours). Organizers: GEA-Ecohydraulics, ITAGRA.CT, CH. Segura, CH. Duero, and ETSIIAA (UVa). Palencia (Spain), **22/05/2014**.
- Workshop of Hydraulics. Fishways: evaluation and experimentation (2 hours). Organizers: GEA-Ecohydraulics, ITAGRA.CT and Department of Agroforestry Engineering of ETSIIAA (UVa). Palencia (Spain), **04/12/2013**.
- First, second, third, fourth, and fifth course of fishways: design, monitoring and evaluation (25-40 hours) Organizers: Department of Agroforestry Engineering ETSIIAA (Palencia), University of Valladolid in collaboration with ITAGRA. **2009-2014** (every year).

9. Prizes and Awards

- Extraordinary PhD Award of University of Valladolid for PhD studies in the University of Valladolid **2019**.
- Seal of Excellence to the project proposal 839830, AVAIL **2019** Certificate delivered by the European Commission, as the institution managing Horizon 2020.
- Honorific collaborator of the Department of Agroforestry Engineering ETSIIAA (Palencia), **2018/2019/2020**.
- Seal of Excellence to the project proposal 795434, AVAIL **2018** Certificate delivered by the European Commission, as the institution managing Horizon 2020.
- Award to Distinguished Project in Fisheries Engineering and Ecohydrology **2015** for the project “Salto de San Fernando: Problems and Solutions”, awarded by “ASCE Environmental & Water Resource Institute” and “AFS Bioengineering Section”.
- Outstanding Graduation Award **2014**, for the best mark in the Master Degree in Research in Engineering for Agroforestry Development.
- Awards to the innovation **2014** funded by the Newspaper “El Mundo de Castilla y León”, to the best research group in the province of Palencia because of the development of the software DimP 1.0.
- “Prometeo” grant 2013 to Escalas **2012**, software for design, calculation and simulation of fishways. Granted by the General Foundation of the University of Valladolid.
- “¿Investigamos?” awards **2010** for the development of a software for determining population parameters of continental ichthyofauna. Given by ITAGRA.CT.
- Award to the best dissertation **2009**. Official College of Technical Forestry Engineers of Spain.

10. Received funding

- Marie Skłodowska-Curie actions Postdoctoral grant **2021-...**, in university of Valladolid and funded by

European Union (H2020)

- Torres Quevedo Grant **2019-2021**, in Itagra.ct. and funded by Ministry of Science and Innovation of Spain.
- Smart specialisation doctoral scholarship **2017-2018**, in the *Centre for Biorobotics* of the *Tallinn University of Technology*.
- Marie Skłodowska-Curie actions research fellowships, under the research project *Robocademy* for the development of the research career during **2014-2017**, in the *Centre for Biorobotics* of the *Tallinn University of Technology*.
- Research Scholarship, under the research project *Development of analysis and laboratory experiments and field soils, agricultural crops and forest species* during September and November of **2013**. Scholarship developed at TU Hydraulics and Hydrology the ETSIIAA-UVa and funded by ITAGRA.CT.
- Research Scholarship, under the research project *Development of analysis and laboratory experiments and field soils, agricultural crops and forest species* during the academic year **2012-2013**. Scholarship developed at TU Hydraulics and Hydrology the ETSIIAA-UVa and funded by ITAGRA.CT.
- Grant to collaborate in university departments of the Autonomous Community of the Basque Country for the **2010-2011** academic year, developed at TU Hydraulics and Hydrology ETSIIAA-UVa.
- Research Scholarship, under the research project *Development of analysis and laboratory experiments and field soils, agricultural crops and forest species* during January to September of **2010**. Scholarship developed at TU Hydraulics and Hydrology the ETSIIAA-UVa and funded by ITAGRA.CT.

11. Supervising and mentoring activities

2022	Carlos Escudero Ortega, Master thesis: <i>Estudio de la capacidad de franqueabilidad del cangrejo señal</i> (University of Valladolid).
2019	Jevgeni Potulov, Bachelor thesis: <i>Development and testing of a radio communication module and GUI for real-time tracking of Smart Geo Particle drifters</i> .
2017 – 2018	Cecilia Monoli, Master thesis: <i>Development of a protocol for Investigation of human kinematics Using imu waterproof sensors</i> .
2016 – 2017	Ana García-Vega, PhD secondment.
2016 – 2017	Melanie Schulz, Bachelor Thesis: <i>Design and Implementation of a bio-inspired Artificial Lateral Line Probe</i>
2015 – 2016	Uljan Sinani, secondment in CfB.

12. Reviewing in international journals

Reviewer for Knowledge and Management of Aquatic Ecosystems, Sensors, Fishes, Hydrobiologia, Agronomy Research, Engineering Optimization, Ecological Engineering, Science of Total Environment, or Journal of Hydraulic Engineering. Check records of reviews at [Publons](#).

13. Teaching activities

2021-2022	Conservation Hydrology (1 ECTS). Bachelor degree on Forestry and Natural Environment Engineering. University of Valladolid.
2021-2022	Applied Hydraulics (1 ECTS). Master Degree in Agronomic Engineering. University of Valladolid.
2021-2022	Hydraulic Structures (0.25 ECTS). Master Degree in Agronomic Engineering. University of Valladolid.
2021-2022	Wildlife Management (0.25 ECTS). Bachelor degree on Forestry and Natural Environment Engineering. University of Valladolid.
24/11/2020	Introduction to OpenFoam. Master Degree in Agronomic Engineering. University of Valladolid.
2019-2020	Electrotechnics, Electrification and Electrical Machines. Bachelor degree on Agricultural and Food Industries. University of Valladolid.
2019-2020	Forestry Facilities. Master degree on Forestry Engineering. University of Valladolid.
2019-2020	Projects and Electrification. Bachelor degree on Forestry and Natural Environment Engineering. University of Valladolid.
25/11/2019	Introduction to OpenFoam. Master Degree in Agronomic Engineering. University of Valladolid.
10-12/09/2019	Sixth course of fishways: design, monitoring and evaluation. Hosted by ETSIIAA (Palencia), University of Valladolid in collaboration with ITAGRA.
29/10/2018	The art of scientific figures. Tallinn university of Technology, Centre for Biorobotics.
04/11/2018	
19/08/2018	DIY Sensing and Logging with Open Hardware. International Symposium of Ecohydraulics 2018.

	Tokyo, Japan.
21/11/2017	The art of scientific figures. Tallinn university of Technology, Centre for Biorobotics.
01/11/2016	Pressure sensor-based artificial lateral lines. Tokyo university of Agriculture and Technology, hosted by Shinki Fukuda
21/05/2016	FishView: sensing like a fish. University of Valladolid, hosted by Francisco Javier Sanz Ronda
2009 - 2014	First, second, third, fourth, and fifth course of fishways: design, monitoring and evaluation (25 – 40 hours). Hosted by ETSIIAA (Palencia), University of Valladolid in collaboration with ITAGRA.