



Breve reseña curricular

Nombre y Apellidos: Santiago Pedro Aubourg Martínez

Categoría Profesional: Profesor de Investigación

Formación Académica: Licenciado en Química (especialidad Orgánica). Doctor en Química

Área/s Científicas CSIC (Recursos Naturales, Ciencia y Tecnología de Alimentos, Ciencias Agrarias): Ciencia y Tecnología de los Alimentos

Experiencia Científica y/o Tecnológica:

LÍNEAS DE TRABAJO:

- Síntesis de alcaloides (cularinas, azaflaurantenos y aporfinas) con aplicación farmacológica. Período: 1981-1983.
- Composición lipídica de especies marinas: Distribución zonal y efecto de la estación. Período: Desde 1984 hasta la actualidad.
- Modificaciones e interacciones de los constituyentes químicos de las especies marinas durante su procesamiento: Influencia sobre la calidad del producto final. Período: Desde 1984 hasta la actualidad.
- Análisis de metabolitos químicos relacionados con la frescura y calidad de las especies marinas: Búsqueda de métodos de análisis aplicables a productos de la pesca y de la acuicultura. Período: Desde 1988 hasta la actualidad.
- Identificación de especies marinas en productos elaborados: Control de origen. Período: 1989-1995.
- Utilización de ácidos orgánicos naturales y de extractos de plantas terrestres y algas ricos en componentes funcionales con propiedades antioxidantes y antimicrobianas: Mejora de la calidad en productos derivados de la pesca. Período: Desde 1995 hasta la actualidad.
- Aprovechamiento de especies marinas infravaloradas: Estudio de su alteración durante el procesamiento y la conservación. Período: Desde 1996 hasta la actualidad.
- Aplicación de estrategias avanzadas (altas presiones hidrostáticas, antioxidantes naturales, hielo líquido) para la inhibición de la alteración de productos marinos (cultivados y de extracción) durante su conservación. Período: Desde 2001 hasta la actualidad.

INSTRUMENTACIÓN/TÉCNICAS QUE MANEJA:

- Técnicas cromatográficas: capa fina, columna, gas-líquida y líquida-líquida.
- Espectrometrías: UV-Vis y fluorescencia.

Resumen libre del Currículum/biografía:



1. PUBLICACIONES EN REVISTAS INCLUIDAS EN EL SCI (2015-2017)

- Rodríguez, A., Latorre, M., Gajardo, M., Bunger, A., Munizaga, A., López, L., and **Aubourg, S. 2015**. Effect of the antioxidants composition in diet on the sensory and physical properties of frozen farmed Coho salmon (*Oncorhynchus kisutch*). Journal of the Science of Food and Agriculture. 95: 1199-1206.
- Pazos, M., Méndez, L., Fidalgo, L., Vázquez, M., Torres, A., **Aubourg, S.**, and Saraiva, J. **2015**. Effect of high-pressure processing of Atlantic mackerel (*Scomber scombrus*) on biochemical changes during commercial frozen storage. Food and Bioprocess Technology. 8: 2159-2170.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S. 2015**. Quality enhancement of the abundant under-valued crustacean, lobster krill (*Munida* spp.), during its chilled storage. International Journal of Food Science and Technology. 50: 708-716.
- Fidalgo, L., Saraiva, J., **Aubourg, S.**, Vázquez, M., Torres, A. **2015**. Enzymatic activity during frozen storage of Atlantic horse mackerel (*Trachurus trachurus*) pre-treated by high pressure processing. Food and Bioprocess Technology. 8: 493-502.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S. 2015**. Quality changes during the frozen storage of the crustacean lobster krill (*Munida* spp.). European Journal of lipid Science and Technology. 117: 431-439.
- García-Soto, B., Miranda, J., Rodríguez-Bernaldo de Quirós, A., Sendón, R., Rodríguez-Martínez, A., Barros-Velázquez, J. and **Aubourg, S. 2015**. Effect of biodegradable film (lyophilised alga *Fucus spiralis* and sorbic acid) on quality properties of refrigerated megrim (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology. 50: 1891-1900.
- Pazos, M., Méndez, L., Vázquez, M., and **Aubourg, S. 2015**. Proteomics analysis in frozen horzse mackerel previously high-pressure processed. Food Chemistry. 185: 495-502.
- Rodríguez-Martínez, A.V., Sendón, R., Abad, M.J., González-Rodríguez, M.V., Barros-Velázquez, J., **Aubourg, S.**, Paseiro-Losada, P. and Rodríguez-Bernaldo de Quirós, A. **2016**. Migration kinetics of sorbic acid from polylactic acid and seaweed based films into food simulants. LWT-Food Science and Technology. 65: 630-636.
- Miranda, J., Trigo, M., Barros-Velázquez, J. and **Aubourg, S. 2016**. Effect of an icing medium containing the alga *Fucus spiralis* on the microbiological activity and lipid oxidation in chilled megrim (*Lepidorhombus whiffiagonis*). Food Control. 59: 290-297.
- Miranda, J., Ortiz, J., Barros-Velázquez, J. and **Aubourg, S. 2016**. Quality enhancement of chilled fish by including alga *Bifurcaria bifurcata* extract in the icing medium. Food and Bioprocess Technology. 9: 387-395.
- Rodríguez, A., Maier, L., Paseiro-Losada, P. and **Aubourg, S. 2016**. Changes in sensory and physical parameters in chill-stored farmed Coho salmon (*Oncorhynchus kisutch*). Journal of Aquatic Food Product Technology. 25: 633-643.
- Aubourg, S.**, Torres-Arreola, W., Trigo, M., Ezquerra-Brauer, M. **2016**. Partial characterization of jumbo squid skin pigment extract and its antioxidant potential in a marine oil system. European Journal of Lipid Science and Technology. 118: 1293-1304.
- Ezquerra-Brauer, M., Miranda, J., Cepeda, A., Barros-Velázquez, J. and **Aubourg, S. 2016**. Effect of jumbo squid (*Dosidicus gigas*) skin extract on the microbial activity in chilled mackerel (*Scomber scombrus*). LWT-Food Science and Technology 72: 134-140.
- Barros-Velázquez, J., Miranda, J., Ezquerra-Brauer, M., and **Aubourg, S. 2016**. Impact of icing systems with aqueous, ethanolic and ethanolic-aqueous extracts of alga *Fucus spiralis* on microbial and biochemical quality of chilled hake (*Merluccius merluccius*). International Journal of Food Science and Technology 51: 2081-2089.
- Méndez, L., Fidalgo, L., Pazos, M., Lavilla, M., Torres, J. A., Saraiva, J., Vázquez, M., and **Aubourg, S. 2017**. Lipid and protein changes related to quality loss in frozen sardine (*Sardina pilchardus*) previously processed under high-pressure conditions. Food and Bioprocess Technology 10: 296-306.
- Ezquerra-Brauer, M., Miranda, J., Chan-Higuera, J., Barros-Velázquez, J. and **Aubourg, S. 2017**. New icing media for quality enhancement of chilled hake (*Merluccius merluccius*) using a jumbo squid (*Dosidicus gigas*) skin extract. Journal of the Science of Food and Agriculture. 97: 3412-3419.



- Berríos, M., Rodríguez, A., Rivera, M., Pando, M^ªE., Valenzuela, M^ªA. and **Aubourg, S. 2017.** Optimisation of rancidity stability in long-chain PUFA concentrates obtained from a rainbow trout (*Oncorhynchus mykiss*) by-product. International Journal of Food Science and Technology. 52: 1463-1472.
- Miranda, M., Barbosa R., G., Trigo, M., Uribe, E., Vega-Gálvez, A. and **Aubourg, S. 2017.** Enhancement of the rancidity stability in a marine-oil model by addition of a saponin-free quinoa (*Chenopodium quinoa* Willd.) ethanol extract. European Journal of Lipid Science and Technology. 119: 1600291.
- Ortiz-Viedma, J., Puente, L., Burgos, K., Vivanco, J. P., Ramírez, L., Toro, M^ª T., Barros-Velázquez, J. and **Aubourg, S. 2017.** Antioxidant and antimicrobial effects of stevia (*Stevia rebaudiana* B.) extracts during preservation of refrigerated salmon paste. European Journal of Lipid Science and Technology. 119: 1600467.
- García-Soto, B., Trigo, M., Barros-Velázquez, J. and **Aubourg, S. 2017.** A comparative study of lipid composition of an undervalued crustacean (*Munida* spp.) captured in winter and summer. Journal of Aquatic Food Product Technology 26: 1004-1013.
- Oucif, H., Miranda, J. M., Ali Mehidi, S., Abi-Ayad, S. M., Barros-Velázquez, J. and **Aubourg, S. 2018.** Effectiveness of a combined ethanol-aqueous extract of alga *Cystoseira compressa* for the quality enhancement of a chilled fatty fish species. European Food Research and Technology. 244: 291-299.
- Barbosa, R. G., Trigo, M., Prego, R., Fett, R., and **Aubourg, S. 2018.** The chemical composition of different edible locations (central and edge muscles) of flat fish (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology 53: 271-281.
- Vázquez, M., Fidalgo, L., Saraiva, J., and **Aubourg, S. 2018.** Preservative effect of a previous high-pressure treatment on the chemical changes related to quality loss in frozen hake (*Merluccius merluccius*). Food and Bioprocess Technology. 11: 293-304.
- Pando, M^ªE., Rodríguez, A., Galdames, A., Berríos, M^ªM., Rivera, M., Romero, N., Valenzuela, M^ªA., Ortiz, J., and **Aubourg, S. 2018.** Maximization of the docosahexaenoic and eicosapentaenoic acids content in concentrates obtained from a by-product of rainbow trout (*Oncorhynchus mykiss*) processing. European Food Research Technology. Accepted (manuscript number: EFRT-17-0975).
- Barbosa, R. G., Gonzaga, L., Lodetti, E., Olivo, G., Oliveira Costa, A., **Aubourg, S.**, and Fett, R. **2018.** Biogenic amines assessment during different stages of the canning process of skipjack tuna (*Katsuwonus pelamis*). International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23674).
- Aubourg, S. 2018.** Impact of high-pressure processing on chemical constituents and nutritional properties in aquatic foods: A review. International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23504).
- Barbosa, R. G., Trigo, M., Dovale, G., Rodríguez, A. and **Aubourg, S. 2018.** Antioxidant and antimicrobial behavior of alga *Gracilaria gracilis* extracts during hake (*Merluccius merluccius*) chilled storage. Bulgarian Chemical Communications. Special Issue, 50. In press.
- Ezquerro-Brauer, J. M., Trigo, M., Torres-Arreola, W. and **Aubourg, S. 2018.** Preservative effect of jumbo squid (*Dosidicus gigas*) skin extract as glazing material during the frozen storage of Chub mackerel (*Scomber japonicus*). Bulgarian Chemical Communications. Special Issue, 50. In press.
- Barbosa, R. G., Trigo, M., Fett, R. and **Aubourg, S. 2018.** Impact of a packing medium with alga *Bifurcaria bifurcata* extract on canned Atlantic mackerel (*Scomber scombrus*) quality. Journal of the Science of Food and Agriculture. Accepted (manuscript number: JSFA-17-2505).

2. CAPÍTULOS DE LIBRO (2012-2017)

- Campos, C., Gliemmo, M., **Aubourg, S.** and Barros-Velázquez, J. **2012.** Novel technologies for the preservation of chilled aquatic food products. In: *Novel technologies in food science. Their impact on products, consumer trends and environment.* Editores: Anna McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 13, pp. 299-324. ISBN 978-1-4419-7879-0.
- Campos, C., Castro, M., **Aubourg, S.** and Barros-Velázquez, J. **2012.** Use of natural preservatives in seafood. In: *Novel technologies in food science. Their impact on products, consumer trends and environment.* Editores: Anna



McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 14, pp. 325-360. ISBN 978-1-4419-7879-0.

Böhme, K., Barros-Velázquez, J., Calo-Mata, P. and **Aubourg, S. 2013.** Antibacterial, antiviral and antifungal activity of essential oils: Mechanisms and applications. In: *Antimicrobial compounds: Actual strategies and new alternatives*. Editores: Tomás G. Villa and Patricia Veiga-Crespo. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 51-81.

Aubourg, S. 2016. Fish: Processing. In: *Encyclopedia of Food and health*. Editores: B. Caballero, P. Finglas and F. Toldrá. Elsevier Ltd. Oxford (England, UK), pp. 710-715. ISBN: 978-0-12-384947-2 (in print) and 978-0-12-384953-3 (on line).

Tabilo-Munizaga, G., **Aubourg, S.** and Pérez-Won, M. **2016.** Pressure effects on seafoods. In: *High pressure processing of food: Principles, technology and application*. Editores: Balasubramanian, V.M., Barbosa-Cánovas, G. and Lelieveld, H. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 625-669. ISBN: 978-1-4939-3233-4 (in print) and 978-1-4939-3234-4 (on line).

3. INVESTIGADOR PRINCIPAL EN PROYECTOS Y CONTRATOS (2012-2017)

3.1. PROYECTOS DE INVESTIGACIÓN

Quality enhancement of fatty pelagic fish species by application of the high hydrostatic pressure technology (2010-2012). *Funding Organism*: Xunta de Galicia, Project: 10TAL402001PR.

Marine algae employment in the refrigeration storage of marine species with commercial interest: Effect on microbial activity and lipid oxidation development (2013-2016). *Funding Organism*: Spanish Research Council (CSIC), Project: 201370E001.

Employment of high pressure technology for quality enhancement of frozen hake (*Merluccius merluccius*) (2017-2019). *Funding Organism*: Spanish Research Council (CSIC), Project: 201770E032.

3.2. CONTRATOS: APOYO TECNOLÓGICO A LA INDUSTRIA

Study and development of a biodegradable film as a coating medium during fish refrigeration (2010-2013). *Funding Organism*: Xunta de Galicia. Project: 10 TAL 048 E. *Enterprise in charge*: Cooperativa de Armadores de Pesca del Puerto de Vigo.

Quality optimisation of fish captured in the Grand Sol bank by means of icing including a mixture of natural preserving organic acids (2010-2012). *Funding Organism*: Xunta de Galicia. Project: 10 TAL 018 E. *Enterprise in charge*: Cooperativa de Armadores de Pesca del Puerto de Vigo.

Development of refrigeration and freezing strategies for the commercialisation of *Munida* spp captured in the Grand Sol fishing bank (2012-2014). *Funding Organism*: Xunta de Galicia. Project: IN 841C 2012/82. *Enterprise in charge*: Cooperativa de Armadores de Pesca del Puerto de Vigo.

4. ACTIVIDAD ACADÉMICA (2012-2017)

4.1. DIRECTOR DE TESIS DOCTORALES

Application of advanced technologies for the quality enhancement of refrigerated and marine products. Ph. D. Minia Sanjuás Rey. University of Santiago de Compostela (Septiembre, 2012).

Evaluation of advanced methodologies for the storage of marine species captured by the Galician fleet in European banks. Ph. D. Bibiana García Soto. University of Santiago de Compostela (22nd Julio 2015).

Inhibition of lipid damage during storage of commercial salmonids by employment of different preserving methodologies. Ph. D.: Jaime Ortiz Viedma. University of Santiago de Compostela (1st Febrero 2016).

Application of recent technologies for the commercialization of Coho salmon Coho (Oncorhynchus kisutch): Effect on quality, safety and added value. Ph. D. Alicia Rodríguez Melis. University of Santiago de Compostela (5th Febrero 2016).

Avaliação da qualidade de recursos pesqueros pos captura ao enlatamento. Doctoranda: Roberta García Barbosa. Universidade Federal de Santa Catarina (Florianópolis, Brasil) (12 Diciembre 2017).



4.2. CONFERENCIAS Y CURSOS

- “*Methodology in research: Basic aspects in the research activity*”. University of La Serena (La Serena, Chile), 20 Agosto, 2012.
- Professor of the Course “*Control systems and quality enhancement in animal-origin food*”. Faculty of Natural Resources and Veterinary Medicine. University of Santo Tomás of Santiago (Chile). Santiago, 23-25 Agosto, 2012.
- Professor of the Course “*Marine products: Composition, analysis, quality assessment and advanced preserving technologies*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. P. R. China. Zhoushan, 10-19 Diciembre 2013.
- Professor of the Course “*Effet préservant des technologies récentes pour l’élaboration des produits marins frais et congelés*”. Department of Biotechnology of the Faculty of Science of the Oran University (Orán, Argelia). Orán, 6-10 Abril 2014.
- Professor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 27 Octubre-4 Noviembre, 2015.
- Professor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 17-22 Noviembre, 2016.

5. REVISOR DE ARTÍCULOS CIENTÍFICOS (2012-2017)

5.1. MIEMBRO DEL COMITÉ CIENTÍFICO (revistas SCI)

- International Journal of Food Science and Technology (desde Marzo 2006)
- LWT-Food Science and Technology (desde Abril 2017)

5.2. MIEMBRO DEL COMITÉ CIENTÍFICO (revistas no incluidas en el SCI)

- American Journal of Advanced Food Science and Technology (desde Enero 2012)
- Persian Journal of Seafood Science and Technology (PJST) (desde Octubre 2014)

5.3. REVISOR DE ARTÍCULOS

- Revisor de artículos de revistas incluidas en el *SCI* (más de 30 revistas) y otras (más de 10 revistas).



Brief curriculum review

Name and Surname: Santiago Pedro Aubourg Martínez

Professional Category: Research Professor

Academic History: Graduated in Chemistry (specialty Organic). Ph. D. Chemistry

CSIC Scientific Areas (Natural Resources, Food Science and Technology, Agricultural Sciences): Food Science and Technology

Scientific and/or Technological Experience:

RESEARCH LINES:

- Alkaloid synthesis (cularines, azaflourantenes and aporfines): Pharmacological application. Period: 1981-1983.
- Lipid composition of marine species: Effect of catching zone and season. Period: From 1984 till nowadays.
- Modifications and interactions of chemical constituents of marine species during processing: Effect on the final product quality. Period: From 1984 till nowadays.
- Analysis of chemical metabolites related to freshness and quality in marine species: Search for new quality indices in fish products. Period: From 1988 till nowadays.
- Marine species identification in processed products: Origin control. Period: 1989-1995.
- Employment of natural organic acids and extracts from terrestrial plants and algae with antioxidant and antimicrobial properties: Quality enhancement of seafood. Period: From 1995 till nowadays.
- Natural resources optimisation: Employment of underutilised fish species for human consume: Quality loss during processing and storage. Period: From 1996 till nowadays.
- Advanced inhibition strategies (high-hydrostatic pressure, natural antioxidants, slurry ice) of quality loss during processing and storage of marine products (cultivated and wild). From 2001 till nowadays.

INSTRUMENTATION/TECHNIQUES:

- Chromatographic analysis: thin layer, column, gas-liquid and liquid-liquid.
- Spectrometry: UV-Vis and fluorescence.



Free CV summary/biography:

1. PUBLICATIONS IN SCI JOURNALS (2015-2017)

- Rodríguez, A., Latorre, M., Gajardo, M., Bunger, A., Munizaga, A., López, L., and **Aubourg, S.** 2015. Effect of the antioxidants composition in diet on the sensory and physical properties of frozen farmed Coho salmon (*Oncorhynchus kisutch*). Journal of the Science of Food and Agriculture. 95: 1199-1206.
- Pazos, M., Méndez, L., Fidalgo, L., Vázquez, M., Torres, A., **Aubourg, S.**, and Saraiva, J. 2015. Effect of high-pressure processing of Atlantic mackerel (*Scomber scombrus*) on biochemical changes during commercial frozen storage. Food and Bioprocess Technology. 8: 2159-2170.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S.** 2015. Quality enhancement of the abundant under-valued crustacean, lobster krill (*Munida* spp.), during its chilled storage. International Journal of Food Science and Technology. 50: 708-716.
- Fidalgo, L., Saraiva, J., **Aubourg, S.**, Vázquez, M., Torres, A. 2015. Enzymatic activity during frozen storage of Atlantic horse mackerel (*Trachurus trachurus*) pre-treated by high pressure procesing. Food and Bioprocess Technology. 8: 493-502.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S.** 2015. Quality changes during the frozen storage of the crustacean lobster krill (*Munida* spp.). European Journal of lipid Science and Technology. 117: 431-439.
- García-Soto, B., Miranda, J., Rodríguez-Bernaldo de Quirós, A., Sendón, R., Rodríguez-Martínez, A., Barros-Velázquez, J. and **Aubourg, S.** 2015. Effect of biodegradable film (lyophilised alga *Fucus spiralis* and sorbic acid) on quality properties of refrigerated megrim (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology. 50: 1891-1900.
- Pazos, M., Méndez, L., Vázquez, M., and **Aubourg, S.** 2015. Proteomics analysis in frozen horzse mackerel previously high-pressure processed. Food Chemistry. 185: 495-502.
- Rodríguez-Martínez, A.V., Sendón, R., Abad, M.J., González-Rodríguez, M.V., Barros-Velázquez, J., **Aubourg, S.**, Paseiro-Losada, P. and Rodríguez-Bernaldo de Quirós, A. 2016. Migration kinetics of sorbic acid from polylactic acid and seaweed based films into food simulants. LWT-Food Science and Technology. 65: 630-636.
- Miranda, J., Trigo, M., Barros-Velázquez, J. and **Aubourg, S.** 2016. Effect of an icing medium containing the alga *Fucus spiralis* on the microbiological activity and lipid oxidation in chilled megrim (*Lepidorhombus whiffiagonis*). Food Control. 59: 290-297.
- Miranda, J., Ortiz, J., Barros-Velázquez, J. and **Aubourg, S.** 2016. Quality enhancement of chilled fish by including alga *Bifurcaria bifurcata* extract in the icing medium. Food and Bioprocess Technology. 9: 387-395.
- Rodríguez, A., Maier, L., Paseiro-Losada, P. and **Aubourg, S.** 2016. Changes in sensory and physical parameters in chill-stored farmed Coho salmon (*Oncorhynchus kisutch*). Journal of Aquatic Food Product Technology. 25: 633-643.
- Aubourg, S.**, Torres-Arreola, W., Trigo, M., Ezquerra-Brauer, M. 2016. Partial characterization of jumbo squid skin pigment extract and its antioxidant potential in a marine oil system. European Journal of Lipid Science and Technology. 118: 1293-1304.
- Ezquerra-Brauer, M., Miranda, J., Cepeda, A., Barros-Velázquez, J. and **Aubourg, S.** 2016. Effect of jumbo squid (*Dosidicus gigas*) skin extract on the microbial activity in chilled mackerel (*Scomber scombrus*). LWT-Food Science and Technology 72: 134-140.
- Barros-Velázquez, J., Miranda, J., Ezquerra-Brauer, M., and **Aubourg, S.** 2016. Impact of icing systems with aqueous, ethanolic and ethanolic-aqueous extracts of alga *Fucus spiralis* on microbial and biochemical quality of chilled hake (*Merluccius merluccius*). International Journal of Food Science and Technology 51: 2081-2089.
- Méndez, L., Fidalgo, L., Pazos, M., Lavilla, M., Torres, J. A., Saraiva, J., Vázquez, M., and **Aubourg, S.** 2017. Lipid and protein changes related to quality loss in frozen sardine (*Sardina pilchardus*) previously processed under high-pressure conditions. Food and Bioprocess Technology 10: 296-306.
- Ezquerra-Brauer, M., Miranda, J., Chan-Higuera, J., Barros-Velázquez, J. and **Aubourg, S.** 2017. New icing media for



quality enhancement of chilled hake (*Merluccius merluccius*) using a jumbo squid (*Dosidicus gigas*) skin extract. Journal of the Science of Food and Agriculture. 97: 3412-3419.

- Berrios, M., Rodríguez, A., Rivera, M., Pando, M^ªE., Valenzuela, M^ªA. and **Aubourg, S. 2017**. Optimisation of rancidity stability in long-chain PUFA concentrates obtained from a rainbow trout (*Oncorhynchus mykiss*) by-product. International Journal of Food Science and Technology. 52: 1463-1472.
- Miranda, M., Barbosa R., G., Trigo, M., Uribe, E., Vega-Gálvez, A. and **Aubourg, S. 2017**. Enhancement of the rancidity stability in a marine-oil model by addition of a saponin-free quinoa (*Chenopodium quinoa* Willd.) ethanol extract. European Journal of Lipid Science and Technology. 119: 1600291.
- Ortiz-Viedma, J., Puente, L., Burgos, K., Vivanco, J. P., Ramírez, L., Toro, M^ª T., Barros-Velázquez, J. and **Aubourg, S. 2017**. Antioxidant and antimicrobial effects of stevia (*Stevia rebaudiana* B.) extracts during preservation of refrigerated salmon paste. European Journal of Lipid Science and Technology. 119: 1600467.
- García-Soto, B., Trigo, M., Barros-Velázquez, J. and **Aubourg, S. 2017**. A comparative study of lipid composition of an undervalued crustacean (*Munida* spp.) captured in winter and summer. Journal of Aquatic Food Product Technology 26: 1004-1013.
- Oucif, H., Miranda, J. M., Ali Mehidi, S., Abi-Ayad, S. M., Barros-Velázquez, J. and **Aubourg, S. 2018**. Effectiveness of a combined ethanol-aqueous extract of alga *Cystoseira compressa* for the quality enhancement of a chilled fatty fish species. European Food Research and Technology. 244: 291-299.
- Barbosa, R. G., Trigo, M., Prego, R., Fett, R., and **Aubourg, S. 2018**. The chemical composition of different edible locations (central and edge muscles) of flat fish (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology 53: 271-281.
- Vázquez, M., Fidalgo, L., Saraiva, J., and **Aubourg, S. 2018**. Preservative effect of a previous high-pressure treatment on the chemical changes related to quality loss in frozen hake (*Merluccius merluccius*). Food and Bioprocess Technology. 11: 293-304.
- Pando, M^ªE., Rodríguez, A., Galdames, A., Berríos, M^ªM., Rivera, M., Romero, N., Valenzuela, M^ªA., Ortiz, J., and **Aubourg, S. 2018**. Maximization of the docosahexaenoic and eicosapentaenoic acids content in concentrates obtained from a by-product of rainbow trout (*Oncorhynchus mykiss*) processing. European Food Research Technology. Accepted (manuscript number: EFRT-17-0975).
- Barbosa, R. G., Gonzaga, L., Lodetti, E., Olivo, G., Oliveira Costa, A., **Aubourg, S.**, and Fett, R. **2018**. Biogenic amines assessment during different stages of the canning process of skipjack tuna (*Katsuwonus pelamis*). International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23674).
- Aubourg, S. 2018**. Impact of high-pressure processing on chemical constituents and nutritional properties in aquatic foods: A review. International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23504).
- Barbosa, R. G., Trigo, M., Dovale, G., Rodríguez, A. and **Aubourg, S. 2018**. Antioxidant and antimicrobial behavior of alga *Gracilaria gracilis* extracts during hake (*Merluccius merluccius*) chilled storage. Bulgarian Chemical Communications. Special Issue, 50. In press.
- Ezquerria-Brauer, J. M., Trigo, M., Torres-Arreola, W. and **Aubourg, S. 2018**. Preservative effect of jumbo squid (*Dosidicus gigas*) skin extract as glazing material during the frozen storage of Chub mackerel (*Scomber japonicus*). Bulgarian Chemical Communications. Special Issue, 50. In press.
- Barbosa, R. G., Trigo, M., Fett, R. and **Aubourg, S. 2018**. Impact of a packing medium with alga *Bifurcaria bifurcata* extract on canned Atlantic mackerel (*Scomber scombrus*) quality. Journal of the Science of Food and Agriculture. Accepted (manuscript number: JSFA-17-2505).

2. BOOK CHAPTERS (2012-2017)

- Campos, C., Gliemmo, M., **Aubourg, S.** and Barros-Velázquez, J. **2012**. Novel technologies for the preservation of chilled aquatic food products. In: *Novel technologies in food science. Their impact on products, consumer trends and environment*. Editores: Anna McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 13, pp. 299-324. ISBN 978-1-4419-7879-0.



- Campos, C., Castro, M., **Aubourg, S.** and Barros-Velázquez, J. **2012.** Use of natural preservatives in seafood. In: *Novel technologies in food science. Their impact on products, consumer trends and environment.* Editores: Anna McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 14, pp. 325-360. ISBN 978-1-4419-7879-0.
- Böhme, K., Barros-Velázquez, J., Calo-Mata, P. and **Aubourg, S.** **2013.** Antibacterial, antiviral and antifungal activity of essential oils: Mechanisms and applications. In: *Antimicrobial compounds: Actual strategies and new alternatives.* Editores: Tomás G. Villa and Patricia Veiga-Crespo. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 51-81.
- Aubourg, S.** **2016.** Fish: Processing. In: *Encyclopedia of Food and health.* Editores: B. Caballero, P. Finglas and F. Toldrá. Elsevier Ltd. Oxford (England, UK), pp. 710-715. ISBN: 978-0-12-384947-2 (in print) and 978-0-12-384953-3 (on line).
- Tabilo-Munizaga, G., **Aubourg, S.** and Pérez-Won, M. **2016.** Pressure effects on seafoods. In: *High pressure processing of food: Principles, technology and application.* Editores: Balasubramanian, V.M., Barbosa-Cánovas, G. and Lelieveld, H. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 625-669. ISBN: 978-1-4939-3233-4 (in print) and 978-1-4939-3234-4 (on line).

3. LEADER OF RESEARCH PROJECTS AND CONTRACTS (2012-2017)

3.1. RESEARCH PROJECTS

- Quality enhancement of fatty pelagic fish species by application of the high hydrostatic pressure technology (2010-2012). *Funding Organism:* Xunta de Galicia, Project: 10TAL402001PR.
- Marina algae employment in the refrigeration storage of marine species with commercial interest: Effect on microbial activity and lipid oxidation development (2013-2016). *Funding Organism:* Spanish Research Council (CSIC), Project: 201370E001.
- Employment of high pressure technology for quality enhancement of frozen hake (*Merluccius merluccius*) (2017-2019). *Funding Organism:* Spanish Research Council (CSIC), Project: 201770E032.

3.2. CONTRACTS: TECHNOLOGICAL SUPPORT TO PRIVATE INDUSTRY

- Study and development of a biodegradable film as a coating medium during fish refrigeration (2010-2013). *Funding Organism:* Xunta de Galicia. Project: 10 TAL 048 E. *Enterprise in charge:* Cooperativa de Armadores de Pesca del Puerto de Vigo.
- Quality optimisation of fish captured in the Grand Sol bank by means of icing including a mixture of natural preserving organic acids (2010-2012). *Funding Organism:* Xunta de Galicia. Project: 10 TAL 018 E. *Enterprise in charge:* Cooperativa de Armadores de Pesca del Puerto de Vigo.
- Development of refrigeration and freezing strategies for the commercialisation of *Munida* spp captured in the Grand Sol fishing bank (2012-2014). *Funding Organism:* Xunta de Galicia. Project: IN 841C 2012/82. *Enterprise in charge:* Cooperativa de Armadores de Pesca del Puerto de Vigo.

4. ACADEMIC ACTIVITY (2012-2017)

4.1. Ph. D. SUPERVISOR

- Application of advanced technologies for the quality enhancement of refrigerated and marine products.* Ph. D. Minia Sanjuás Rey. University of Santiago de Compostela (September, 2012).
- Evaluation of advanced methodologies for the storage of marine species captured by the Galician fleet in European banks.* Ph. D. Bibiana García Soto. University of Santiago de Compostela (22nd July 2015).
- Inhibition of lipid damage during storage of commercial salmonids by employment of different preserving methodologies.* Ph. D.: Jaime Ortiz Viedma. University of Santiago de Compostela (1st February 2016).
- Application of recent technologies for the commercialization of Coho salmon Coho (*Oncorhynchus kisutch*): Effect on quality, safety and added value.* Ph. D. Alicia Rodríguez Melis. University of Santiago de Compostela (5th February 2016).



Avaliação da qualidade de recursos pesqueros pos captura ao enlatamento. Doctoranda: Roberta García Barbosa. Universidade Federal de Santa Catarina (Florianópolis, Brasil) (12 December 2017).

4.2. LECTURES

- “*Methodology in research: Basic aspects in the research activity*”. University of La Serena (La Serena, Chile), 20 of August, 2012.
- Professor of the Course “*Control systems and quality enhancement in animal-origin food*”. Faculty of Natural Resources and Veterinary Medicine. University of Santo Tomás of Santiago (Chile). Santiago, 23-25 of August, 2012.
- Professor of the Course “*Marine products: Composition, analysis, quality assessment and advanced preserving technologies*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. P. R. China. Zhoushan, 10-19 December 2013.
- Professor of the Course “*Effet préservant des technologies récentes pour l’élaboration des produits marins frais et congelés*”. Department of Biotechnology of the Faculty of Science of the Oran University (Orán, Argelia). Orán, 6-10 April 2014.
- Professor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 27 October-4 November, 2015.
- Profesor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 17 November-22 November, 2016.

5. PEER-REVIEWER IN SCIENTIFIC JOURNALS (2012-2017)

5.1. MEMBER OF THE EDITORIAL BOARD (SCI journals)

- International Journal of Food Science and Technology (from March 2006)
- LWT-Food Science and Technology (from April 2017)

5.2. MEMBER OF THE EDITORIAL BOARD (non-SCI journals)

- American Journal of Advanced Food Science and Technology (from January 2012)
- Persian Journal of Seafood Science and Technology (PJST) (from October 2014)

5.3. REVIEWER IN SCIENTIFIC JOURNALS

- Peer reviewer in journals included in the *SCI* (over 30 journals) and out from *SCI* (over 10 journals).



Breve nota curricular

Nome e Apelidos: Santiago Pedro Aubourg Martínez

Categoría Profesional: Profesor de Investigación

Formación Académica: Licenciado en Química (especialidade Orgánica). Doutor en Química

Área/s Científicas CSIC (Recursos Naturais, Ciencia e Tecnoloxía de Alimentos, Ciencias Agrarias): Ciencia e Tecnoloxía dos Alimentos

Experiencia Científica e/ou Tecnolóxica:

LÍÑAS DE TRABAJO:

- Síntese de alcaloides (cularinas, azaflorantenos e aporfina) con aplicación farmacolóxica. Período: 1981-1983.
- Composición lipídica de especies mariñas: Distribución zonal e efecto da estación. Período: Dende 1984 ata hoxe.
- Modificacións e interaccións dos constituíntes químicos das especies mariñas durante o procesamento: Influencia sobre a calidade do produto final. Período: Dende 1984 ata hoxe.
- Análise de metabolitos químicos relacionados ca frescura e calidade das especies mariñas: Búsqueda de métodos de análise aplicables a produtos da pesca e da acuicultura. Período: Dende 1988 ata hoxe.
- Identificación de especies mariñas en produtos elaborados: Control de orixe. Período: 1989-1995.
- Utilización de ácidos orgánicos naturais e de extractos de plantas terrestres e algas ricos en compoñentes funcionais con propiedades antioxidantes e antimicrobianas: Mellora da calidade en produtos derivados da pesca. Período: Dende 1995 ata hoxe.
- Aproveitamento de especies mariñas infravaloradas: Estudo da súa alteración durante o procesamento e a conservación. Período: Dende 1996 ata hoxe.
- Aplicación de estratexias avanzadas (altas presións hidrostáticas, antioxidantes naturais, xeo líquido) para a inhibición da alteración de produtos mariños (cultivados y de extracción) durante a súa conservación. Período: Dende 2001 ata hoxe.

INSTRUMENTACIÓN/TÉCNICAS QUE MANEXA:

- Técnicas cromatográficas: capa fina, columna, gas-líquida e líquida-líquida.
- Espectrometrías: UV-Vis e fluorescencia

Resumo libre do Currículo/biografía:



1. PUBLICACIONES EN REVISTAS INCLUIDAS NO SCI (2015-2017)

- Rodríguez, A., Latorre, M., Gajardo, M., Bunger, A., Munizaga, A., López, L., and **Aubourg, S. 2015**. Effect of the antioxidants composition in diet on the sensory and physical properties of frozen farmed Coho salmon (*Oncorhynchus kisutch*). Journal of the Science of Food and Agriculture. 95: 1199-1206.
- Pazos, M., Méndez, L., Fidalgo, L., Vázquez, M., Torres, A., **Aubourg, S.**, and Saraiva, J. **2015**. Effect of high-pressure processing of Atlantic mackerel (*Scomber scombrus*) on biochemical changes during commercial frozen storage. Food and Bioprocess Technology. 8: 2159-2170.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S. 2015**. Quality enhancement of the abundant under-valued crustacean, lobster krill (*Munida* spp.), during its chilled storage. International Journal of Food Science and Technology. 50: 708-716.
- Fidalgo, L., Saraiva, J., **Aubourg, S.**, Vázquez, M., Torres, A. **2015**. Enzymatic activity during frozen storage of Atlantic horse mackerel (*Trachurus trachurus*) pre-treated by high pressure processing. Food and Bioprocess Technology. 8: 493-502.
- García-Soto, B., Miranda, J., Barros-Velázquez, J. and **Aubourg, S. 2015**. Quality changes during the frozen storage of the crustacean lobster krill (*Munida* spp.). European Journal of lipid Science and Technology. 117: 431-439.
- García-Soto, B., Miranda, J., Rodríguez-Bernaldo de Quirós, A., Sendón, R., Rodríguez-Martínez, A., Barros-Velázquez, J. and **Aubourg, S. 2015**. Effect of biodegradable film (lyophilised alga *Fucus spiralis* and sorbic acid) on quality properties of refrigerated megrim (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology. 50: 1891-1900.
- Pazos, M., Méndez, L., Vázquez, M., and **Aubourg, S. 2015**. Proteomics analysis in frozen horzse mackerel previously high-pressure processed. Food Chemistry. 185: 495-502.
- Rodríguez-Martínez, A.V., Sendón, R., Abad, M.J., González-Rodríguez, M.V., Barros-Velázquez, J., **Aubourg, S.**, Paseiro-Losada, P. and Rodríguez-Bernaldo de Quirós, A. **2016**. Migration kinetics of sorbic acid from polylactic acid and seaweed based films into food simulants. LWT-Food Science and Technology. 65: 630-636.
- Miranda, J., Trigo, M., Barros-Velázquez, J. and **Aubourg, S. 2016**. Effect of an icing medium containing the alga *Fucus spiralis* on the microbiological activity and lipid oxidation in chilled megrim (*Lepidorhombus whiffiagonis*). Food Control. 59: 290-297.
- Miranda, J., Ortiz, J., Barros-Velázquez, J. and **Aubourg, S. 2016**. Quality enhancement of chilled fish by including alga *Bifurcaria bifurcata* extract in the icing medium. Food and Bioprocess Technology. 9: 387-395.
- Rodríguez, A., Maier, L., Paseiro-Losada, P. and **Aubourg, S. 2016**. Changes in sensory and physical parameters in chill-stored farmed Coho salmon (*Oncorhynchus kisutch*). Journal of Aquatic Food Product Technology. 25: 633-643.
- Aubourg, S.**, Torres-Arreola, W., Trigo, M., Ezquerra-Brauer, M. **2016**. Partial characterization of jumbo squid skin pigment extract and its antioxidant potential in a marine oil system. European Journal of Lipid Science and Technology. 118: 1293-1304.
- Ezquerra-Brauer, M., Miranda, J., Cepeda, A., Barros-Velázquez, J. and **Aubourg, S. 2016**. Effect of jumbo squid (*Dosidicus gigas*) skin extract on the microbial activity in chilled mackerel (*Scomber scombrus*). LWT-Food Science and Technology 72: 134-140.
- Barros-Velázquez, J., Miranda, J., Ezquerra-Brauer, M., and **Aubourg, S. 2016**. Impact of icing systems with aqueous, ethanolic and ethanolic-aqueous extracts of alga *Fucus spiralis* on microbial and biochemical quality of chilled hake (*Merluccius merluccius*). International Journal of Food Science and Technology 51: 2081-2089.
- Méndez, L., Fidalgo, L., Pazos, M., Lavilla, M., Torres, J. A., Saraiva, J., Vázquez, M., and **Aubourg, S. 2017**. Lipid and protein changes related to quality loss in frozen sardine (*Sardina pilchardus*) previously processed under high-pressure conditions. Food and Bioprocess Technology 10: 296-306.
- Ezquerra-Brauer, M., Miranda, J., Chan-Higuera, J., Barros-Velázquez, J. and **Aubourg, S. 2017**. New icing media for quality enhancement of chilled hake (*Merluccius merluccius*) using a jumbo squid (*Dosidicus gigas*) skin extract. Journal of the Science of Food and Agriculture. 97: 3412-3419.



- Berríos, M., Rodríguez, A., Rivera, M., Pando, M^ªE., Valenzuela, M^ªA. and **Aubourg, S. 2017.** Optimisation of rancidity stability in long-chain PUFA concentrates obtained from a rainbow trout (*Oncorhynchus mykiss*) by-product. International Journal of Food Science and Technology. 52: 1463-1472.
- Miranda, M., Barbosa R., G., Trigo, M., Uribe, E., Vega-Gálvez, A. and **Aubourg, S. 2017.** Enhancement of the rancidity stability in a marine-oil model by addition of a saponin-free quinoa (*Chenopodium quinoa* Willd.) ethanol extract. European Journal of Lipid Science and Technology. 119: 1600291.
- Ortiz-Viedma, J., Puente, L., Burgos, K., Vivanco, J. P., Ramírez, L., Toro, M^ª T., Barros-Velázquez, J. and **Aubourg, S. 2017.** Antioxidant and antimicrobial effects of stevia (*Stevia rebaudiana* B.) extracts during preservation of refrigerated salmon paste. European Journal of Lipid Science and Technology. 119: 1600467.
- García-Soto, B., Trigo, M., Barros-Velázquez, J. and **Aubourg, S. 2017.** A comparative study of lipid composition of an undervalued crustacean (*Munida* spp.) captured in winter and summer. Journal of Aquatic Food Product Technology 26: 1004-1013.
- Oucif, H., Miranda, J. M., Ali Mehidi, S., Abi-Ayad, S. M., Barros-Velázquez, J. and **Aubourg, S. 2018.** Effectiveness of a combined ethanol-aqueous extract of alga *Cystoseira compressa* for the quality enhancement of a chilled fatty fish species. European Food Research and Technology. 244: 291-299.
- Barbosa, R. G., Trigo, M., Prego, R., Fett, R., and **Aubourg, S. 2018.** The chemical composition of different edible locations (central and edge muscles) of flat fish (*Lepidorhombus whiffiagonis*). International Journal of Food Science and Technology 53: 271-281.
- Vázquez, M., Fidalgo, L., Saraiva, J., and **Aubourg, S. 2018.** Preservative effect of a previous high-pressure treatment on the chemical changes related to quality loss in frozen hake (*Merluccius merluccius*). Food and Bioprocess Technology. 11: 293-304.
- Pando, M^ªE., Rodríguez, A., Galdames, A., Berríos, M^ªM., Rivera, M., Romero, N., Valenzuela, M^ªA., Ortiz, J., and **Aubourg, S. 2018.** Maximization of the docosahexaenoic and eicosapentaenoic acids content in concentrates obtained from a by-product of rainbow trout (*Oncorhynchus mykiss*) processing. European Food Research Technology. Accepted (manuscript number: EFRT-17-0975).
- Barbosa, R. G., Gonzaga, L., Lodetti, E., Olivo, G., Oliveira Costa, A., **Aubourg, S.**, and Fett, R. **2018.** Biogenic amines assessment during different stages of the canning process of skipjack tuna (*Katsuwonus pelamis*). International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23674).
- Aubourg, S. 2018.** Impact of high-pressure processing on chemical constituents and nutritional properties in aquatic foods: A review. International Journal of Food Science and Technology. Accepted (manuscript number: IJFST-2017-23504).
- Barbosa, R. G., Trigo, M., Dovale, G., Rodríguez, A. and **Aubourg, S. 2018.** Antioxidant and antimicrobial behavior of alga *Gracilaria gracilis* extracts during hake (*Merluccius merluccius*) chilled storage. Bulgarian Chemical Communications. Special Issue, 50. In press.
- Ezquerro-Brauer, J. M., Trigo, M., Torres-Arreola, W. and **Aubourg, S. 2018.** Preservative effect of jumbo squid (*Dosidicus gigas*) skin extract as glazing material during the frozen storage of Chub mackerel (*Scomber japonicus*). Bulgarian Chemical Communications. Special Issue, 50. In press.
- Barbosa, R. G., Trigo, M., Fett, R. and **Aubourg, S. 2018.** Impact of a packing medium with alga *Bifurcaria bifurcata* extract on canned Atlantic mackerel (*Scomber scombrus*) quality. Journal of the Science of Food and Agriculture. Accepted (manuscript number: JSFA-17-2505).

2. CAPÍTULOS DE LIBRO (2012-2017)

- Campos, C., Gliemmo, M., **Aubourg, S.** and Barros-Velázquez, J. **2012.** Novel technologies for the preservation of chilled aquatic food products. In: *Novel technologies in food science. Their impact on products, consumer trends and environment*. Editores: Anna McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 13, pp. 299-324. ISBN 978-1-4419-7879-0.
- Campos, C., Castro, M., **Aubourg, S.** and Barros-Velázquez, J. **2012.** Use of natural preservatives in seafood. In: *Novel technologies in food science. Their impact on products, consumer trends and environment*. Editores: Anna



McElhatton and Paulo do Amaral. Springer, Science and Business, Inc., Heidelberg (Germany). Chapter 14, pp. 325-360. ISBN 978-1-4419-7879-0.

Böhme, K., Barros-Velázquez, J., Calo-Mata, P. and **Aubourg, S. 2013.** Antibacterial, antiviral and antifungal activity of essential oils: Mechanisms and applications. In: *Antimicrobial compounds: Actual strategies and new alternatives*. Editores: Tomás G. Villa and Patricia Veiga-Crespo. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 51-81.

Aubourg, S. 2016. Fish: Processing. In: *Encyclopedia of Food and health*. Editores: B. Caballero, P. Finglas and F. Toldrá. Elsevier Ltd. Oxford (England, UK), pp. 710-715. ISBN: 978-0-12-384947-2 (in print) and 978-0-12-384953-3 (on line).

Tabilo-Munizaga, G., **Aubourg, S.** and Pérez-Won, M. **2016.** Pressure effects on seafoods. In: *High pressure processing of food: Principles, technology and application*. Editores: Balasubramanian, V.M., Barbosa-Cánovas, G. and Lelieveld, H. Springer, Science and Business, Inc., Heidelberg (Germany), pp. 625-669. ISBN: 978-1-4939-3233-4 (in print) and 978-1-4939-3234-4 (on line).

3. INVESTIGADOR PRINCIPAL EN PROXECTOS E CONTRATOS (2012-2017)

3.1. PROXECTOS DE INVESTIGACIÓN

Quality enhancement of fatty pelagic fish species by application of the high hydrostatic pressure technology (2010-2012). *Funding Organism*: Xunta de Galicia, Project: 10TAL402001PR.

Marine algae employment in the refrigeration storage of marine species with commercial interest: Effect on microbial activity and lipid oxidation development (2013-2016). *Funding Organism*: Spanish Research Council (CSIC), Project: 201370E001.

Employment of high pressure technology for quality enhancement of frozen hake (*Merluccius merluccius*) (2017-2019). *Funding Organism*: Spanish Research Council (CSIC), Project: 201770E032.

3.2. CONTRATOS: APOIO TECNOLÓXICO Á INDUSTRIA

Study and development of a biodegradable film as a coating medium during fish refrigeration (2010-2013). *Funding Organism*: Xunta de Galicia. Project: 10 TAL 048 E. *Enterprise in charge*: Cooperativa de Armadores de Pesca do Porto de Vigo.

Quality optimisation of fish captured in the Grand Sol bank by means of icing including a mixture of natural preserving organic acids (2010-2012). *Funding Organism*: Xunta de Galicia. Project: 10 TAL 018 E. *Enterprise in charge*: Cooperativa de Armadores de Pesca do Porto de Vigo.

Development of refrigeration and freezing strategies for the commercialisation of *Munida* spp captured in the Grand Sol fishing bank (2012-2014). *Funding Organism*: Xunta de Galicia. Project: IN 841C 2012/82. *Enterprise in charge*: Cooperativa de Armadores de Pesca do Porto de Vigo.

4. ACTIVIDADE ACADÉMICA (2012-2017)

4.1. DIRECTOR DE TESES DOUTORAIS

Application of advanced technologies for the quality enhancement of refrigerated and marine products. Ph. D. Minia Sanjuás Rey. University of Santiago de Compostela (Setembro, 2012).

Evaluation of advanced methodologies for the storage of marine species captured by the Galician fleet in European banks. Ph. D. Bibiana García Soto. University of Santiago de Compostela (22 Xulio 2015).

Inhibition of lipid damage during storage of commercial salmonids by employment of different preserving methodologies. Ph. D.: Jaime Ortiz Viedma. University of Santiago de Compostela (1 Febreiro 2016).

Application of recent technologies for the commercialization of Coho salmon Coho (Oncorhynchus kisutch): Effect on quality, safety and added value. Ph. D. Alicia Rodríguez Melis. University of Santiago de Compostela (5th Febreiro 2016).

Avaliação da qualidade de recursos pesqueros pos captura ao enlatamento. Doctoranda: Roberta García Barbosa. Universidade Federal de Santa Catarina (Florianópolis, Brasil) (12 Decembro 2017).



4.2. CONFERENCIAS E CURSOS

- “*Methodology in research: Basic aspects in the research activity*”. University of La Serena (La Serena, Chile), 20 Agosto, 2012.
- Professor of the Course “*Control systems and quality enhancement in animal-origin food*”. Faculty of Natural Resources and Veterinary Medicine. University of Santo Tomás of Santiago (Chile). Santiago, 23-25 Agosto, 2012.
- Professor of the Course “*Marine products: Composition, analysis, quality assessment and advanced preserving technologies*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. P. R. China. Zhoushan, 10-19 Decembro 2013.
- Professor of the Course “*Effet préservant des technologies récentes pour l’élaboration des produits marins frais et congelés*”. Department of Biotechnology of the Faculty of Science of the Oran University (Orán, Argelia). Orán, 6-10 Abril 2014.
- Professor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 27 Octubre-4 Noviembre, 2015.
- Professor of the Course “*Safety and quality control of aquatic products*”. Zhejiang Ocean University. Zhoushan, Zhejiang Province. R. P. China. Zhoushan, 17-22 Noviembre, 2016.

5. REVISOR DE ARTIGOS CIENTÍFICOS (2012-2017)

5.1. MEMBRO DO COMITÉ CIENTÍFICO (revistas SCI)

- International Journal of Food Science and Technology (desde Marzo 2006)
- LWT-Food Science and Technology (desde Abril 2017)

5.2. MEMBRO DO COMITÉ CIENTÍFICO (revistas non incluídas no SCI)

- American Journal of Advanced Food Science and Technology (desde Xaneiro 2012)
- Persian Journal of Seafood Science and Technology (PJST) (desde Outubro 2014)

5.3. REVISOR DE ARTIGOS

- Revisor de artigos de revistas incluídas no *SCI* (máis de 30 revistas) e outras (máis de 10 revistas).