Sharing EU Aquaculture Research Facilities:

AQUAEXCEL & AQUAEXCEL^{2020}

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AQUAEXCEL

- PROGRAM: PROJECT FP7, Capacities; Research Infrastructures
- INSTRUMENT: Combination of Collaborative projects and Coordination and Support Actions (CP-CSA)
- TOTAL COST: €11,845,200
- EC CONTRIBUTION: € 9,700,000
- COORDINATION: INRA, Marc Vandeputte
- 17 partners from 10 countries
- DURATION: March 2011 – February 2015 (48 Months)
- CSIC partners: IATS
- CSIC IP: Ariadna Sitjà Bobadilla
- CSIC budget funded: € 490,460
- 23 RESEARCH INFRASTRUCTURES OFFERED
- MARINE AND FRESHWATER FISH SPECIES

Project Partners

France

Institut National de la Recherche Agronomique (INRA)
(Coordinator)

Institut Francais de Recherche Pour L'Exploitation de la Mer (IFREMER)

Inra Transfert S.A. (IT)

Norway

Havforskningsinstituttet (IMR)

Nofima Marin AS (NOFIMA)

Norges teknisk-naturvitenskapelige universitet (NTNU)

SINTEF Fiskeri og havbruk AS (SINTEF)

Spain

Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC)

Universidad de las Palmas de Gran Canaria (ULPGC)

UK

The University of Stirling (UoS)

Greece

Hellenic Center for Marine Research (HCMR)

Hungary

Research Institute for Fisheries, Aquaculture and Irrigation (HAKI)

Czech Republic

Jihoceska univerzita v Ceskych Budejovicich (VURH)

Netherlands

Wageningen Universiteit (WU)

Institute for Marine Resources & Ecosystem Studies (IMARES)

Belgium

Universiteit Gent (UGent)

Ireland

AquaTT UETP Ltd (AquaTT)

Contact Us

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MAIN GOALS:

AQUAEXCEL aims to integrate key aquaculture research infrastructures across Europe, in order to promote their coordinated use and development

36,3%

TNA

IATS

10,2%

Networking

IATS

53,5%

RTD

IATS Groups:
Nutrigenomics

Pathology

Reproduction

What is a TNA

- Give ‘free of charge’ access to the world class infrastructures and resources of the consortium
- Open to EU & Associates States research teams and private companies
- Must be transnational
- PhD students working in the EU can also apply
- For experiments, up to 3 months
- Experiments, travel and subsistence: **EU paid**
- Extra analyses not covered
- Calls every 6 months
- www.aquaexcel.eu

AQUAEXCEL RESEARCH INFRASTRUCTURE ACCESSED

136 applications
9 calls
97 TNA projects carried out.

71% success rate

Number of Projects per Institute

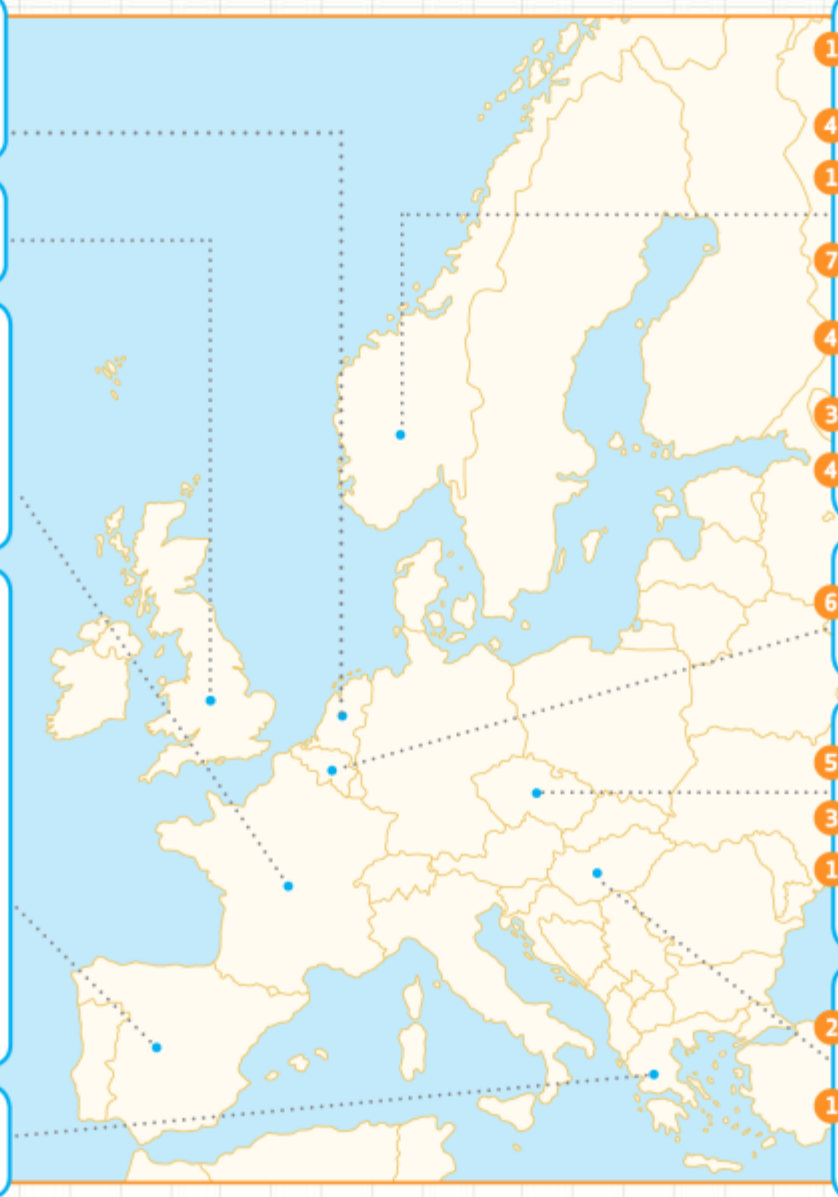
THE NETHERLANDS
- 4 Institute for Marine Resources & Ecosystem Studies (IMARES) DLO-IMARES
- 3 Wageningen University Metabolic Research Unit (WU-MRU)

UK
- 9 The University of Stirling (UoS) Institute of Aquaculture (IoA)

FRANCE
- 4 Institut National de la Recherche Agronomique (INRA) Peima
- 5 Institut National de la Recherche Agronomique (INRA) St Pée
- 2 IInstitut Francais de Recherche Pour L'Exploitation de la Mer (IFREMER) Marine Eco-tolerance section (MES)

SPAIN
- 4 Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC) Instituto de Acuicultura Torre de la Sal (IATS) Experimental facilities (EXP)
- 5 Universidad de las Palmas de Gran Canaria (ULPGC) Feed Ingredients-additives Testing Unit (FITU)
- 2 Universidad de las Palmas de Gran Canaria (ULPGC) Marine Biosecurity Station (MBS)
- 4 Universidad de las Palmas de Gran Canaria (ULPGC) Instituto de Acuicultura Torre de la Sal (IATS) Warm Water Species Selection Unit (WWSSU)
- 5 Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC) Instituto de Acuicultura Torre de la Sal (IATS) Analytical facilities (ANA)

GREECE
- 5 Hellenic Centre for Marine Research (HCMR) Aqualabs



NORWAY
- 1 Havforskningsinstituttet (IMR) Matre Research Station Cage Environmental Laboratory (CEL)
- 4 Havforskningsinstituttet (IMR) Matre Research Station
- 1 Norwegian Institute of Food, Fishery and Aquaculture (Nofima) Averøy Research Station
- 7 Norwegian Institute of Food, Fishery and Aquaculture (Nofima) Norwegian Cod Breeding Centre (NCBC)
- 4 Norwegian Institute of Food, Fishery and Aquaculture (Nofima) Centre for Recirculation in Aquaculture (NCRA)
- 3 Norges tekn sknaturvitenskapelige universitet (NTNU)
- 4 SINTEF Fiskeri og havbruk AS (SINTEF) AquaCulture Engineering (ACE)/Sealab SSO

BELGIUM
- 6 Universiteit Gent (UGent) Gnotobiotic culture system for Artemia and sea bass (GART)

CZECH REPUBLIC
- 5 Jihoceska univerzita v Ceskych Budejovicich (VURH) Hatchery Experimental Unit (HEU)
- 3 Jihoceska univerzita v Ceskych Budejovicich (VURH) Ponds Experimental Unit (PEU)
- 1 Jihoceska univerzita v Ceskych Budejovicich (VURH) Recirculation Experimental Unit (REU)

HUNGARY
- 2 Research Institute for Fisheries, Aquaculture and Irrigation (HAKI) Outdoor Experimental Pond Station (OEPS)
- 1 Research Institute for Fisheries, Aquaculture and Irrigation (HAKI) Indoor Fish Rearing Facility for Semi- and Large-scale Experiments (RECIRK)

AQUAEXCEL TNAs at IATS: Which Infrastructures?

- 20 UNITS OF ACCESS TO ANALYTICAL FACILITIES
- CSIC-ANA
- Maximum: 4 weeks/access
- 5 accesses

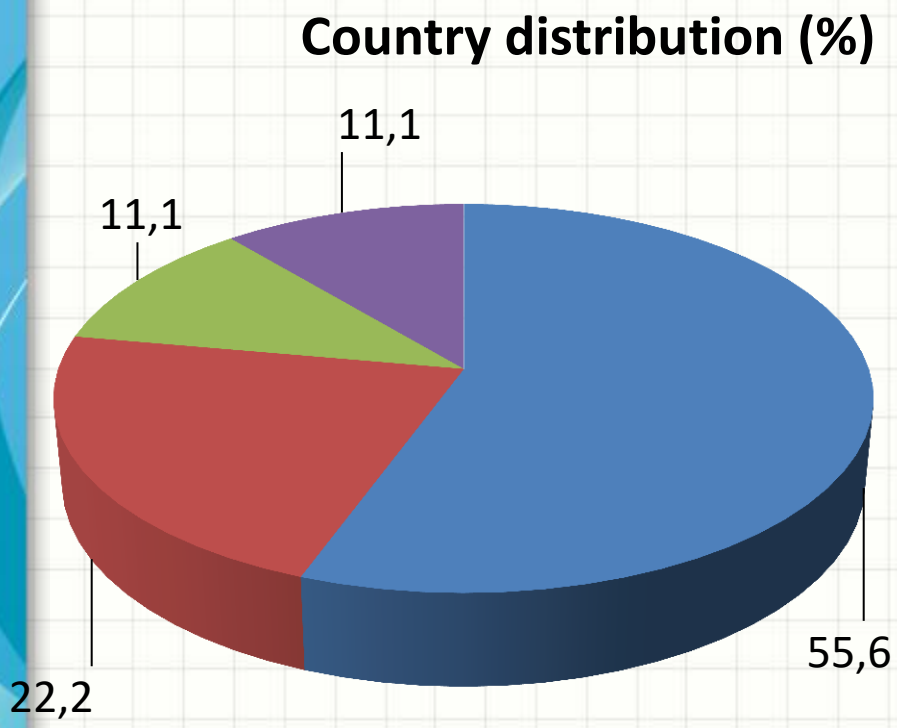
- 48 UNITS OF ACCESS TO EXPERIMENTAL FACILITIES
- CSIC-EXP
- Maximum: 12 weeks/access
- 4 accesses

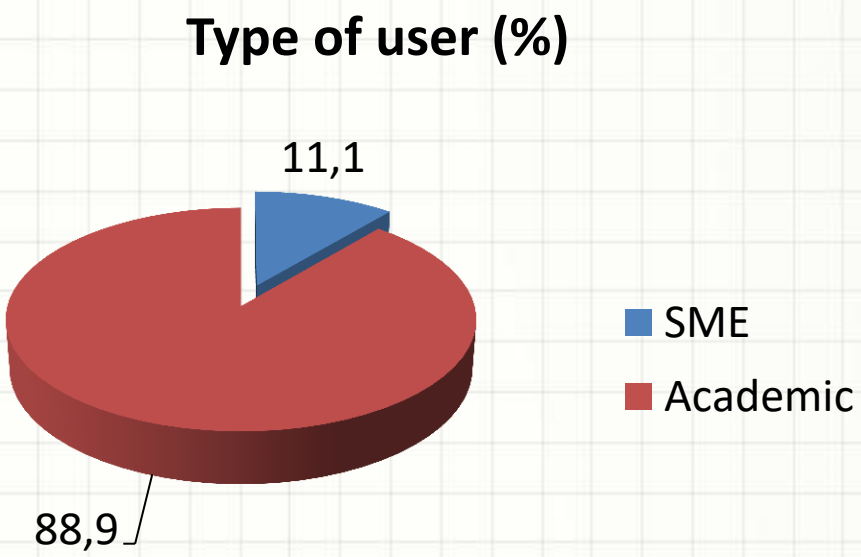
WHAT DID WE DO?

All units of access were used!!

IATS RECEPTOR GROUP	CALL	LABEL	Origin country	UNITS used (wks)	Stage dates	Stage (wks)
PATHOLOGY	2th	CSIC-EXP	Greece	12	Sep 2012	1
NUTRIGENOMICS/PATHOLOGY	3th	CSIC-EXP	Norway	12	Apr-May 2013	2
NUTRIGENOMICS/PATHOLOGY	5th	CSIC-EXP	Portugal	12	Jun 2014	2
PATHOLOGY	7th	CSIC-EXP	Portugal	12	Oct-Nov 2014	2
total				**48**		
ARTEMIA	4th	CSIC-ANA	Greece	4	Jun-Jul 2013	4
NUTRIGENOMICS	4th	CSIC-ANA	Italy	4	Oct-Nov 2013	4
NUTRIGENOMICS/PATHOLOGY	5th	CSIC-ANA	Portugal	4	Jun-Jul 2014	4
FISH BIOTECHNOLOGY	6th	CSIC-ANA	Portugal	4	Dec 2014-Feb 2015	2+2
NUTRIGENOMICS	9th	CSIC-ANA	Portugal	4	Jan-Feb 2015	4
total				**20**		

Profile of IATS-TNA users





HOW DID WE DO IT?

Diffusion, diffusion, and more diffusion…

- Press notes
- Link in front page of IATS web

- E-mailings

- Publicity and poster in meetings
- Specialized media coverage (OESA)

- Mouth-to-mouth

AQUA EXCEL

AQUAculture infrastructures for EXCELLence in European Fish research

AN OPPORTUNITY TO USE TOP QUALITY RESEARCH FACILITIES FREE!!

TNA RESULTS


CSIC
CSIC
CSIC

TNA results

7 • Scientific papers published

8 • Congress communications (oral & poster)

1 • Organización of last AQUAEXCEL meeting (Benicàssim, February 2015)

2 • TNA selected for presentation

3 • Visiting Phd students

Networking activities

- **Online inventory of key aquaculture research infrastructures**, facilities and services: http://www.aquaexcel.eu/index.php/interactive-map
- **Aquaculture Genomics Training Course**
- **Harmonisation and standardization of resources** between partners, notably but not exclusively for fish models and experimental methods developed in-house.
- **AQUAEXCEL-ATOL:** is a Ontology tool to define and organize livestock traits, with a focus on the main types of fish production (meat, feed and fertility) in accordance with societal priorities (animal welfare, product quality, etc.). This ontology will be a reference for semantic search tools in order to improve queries on bibliographic resources about livestock animal phenotypes. Making homogeneous database annotation, it opens the possibility for meta-analysis and modelling. http://www.atol-ontology.com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AQUAEXCEL^{2020}: the next step

AQUAEXCEL	AQUAEXCEL^{2020}
2011-2015 (4 years)	2015-2020 (5 years)
17 partners, 27 facilities	22 partners, 39 facilities
9.2 M€ grant	9.7 M€ grant

Main goal: to integrate and open the key aquaculture research infrastructures in Europe, covering all EU fish culture systems and competences

October 2015 – September 2020

CSIC partners (infrastructures): IATS, IIM
CSIC IP: Jaume Pérez Sánchez

Three pillars of the Project

Types of activities

Transnational Access (TNA): Give 'free of charge' access to the world-class infrastructures and resources of the consortium

170 TNA envisaged
12 for CSIC
10 for IATS

Networking Activities (NA): Co-ordinate partners infrastructures (resource and know-how sharing, communication) and give visibility

IATS: WP3
"Common standars and tools"
Meta-analysis tool with NGS data

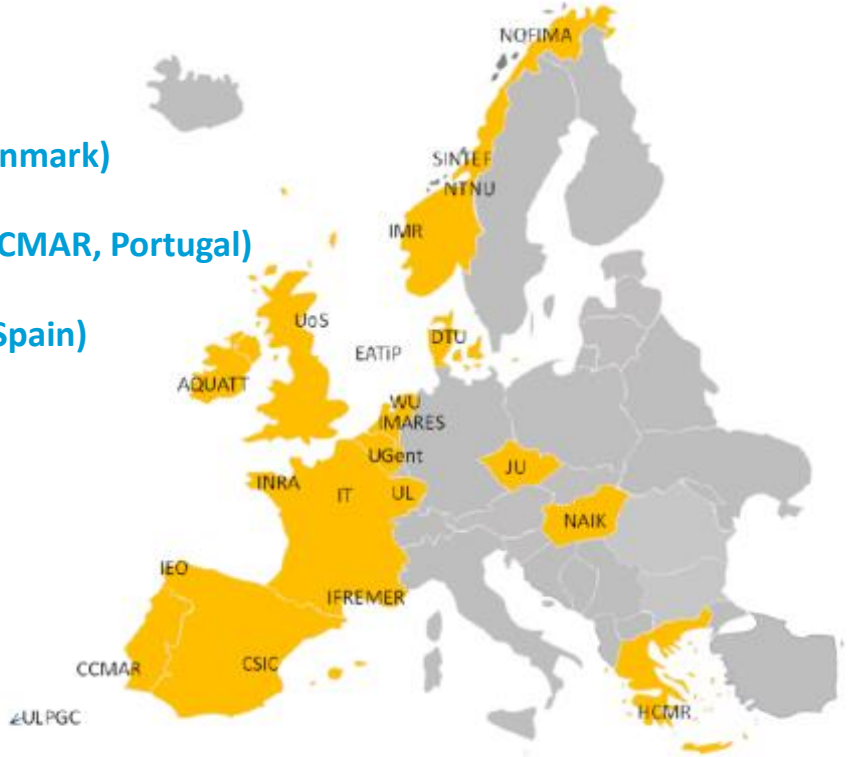
Joint Research Activities (JRA): Joint R&D to improve the services provided by the infrastructures

WP6 "Experimental fish management"
Effect of hypoxia during early life stages

WP8 led by CSIC (IATS)
"Implanted biosensors for remote fish monitoring"

More partners, more infrastructures

- Université de Lorraine (UL, France)
- Dansmark Teksnike Universitet (DTU, Denmark)
- Centro de Ciencias do Mar do Algarve (CCMAR, Portugal)
- Instituto Español de Oceanografía (IEO, Spain)
- EATIP (Bélgium)



AQUAEXCEL makes available 39 Research Installations provided by 19 partner organisations across Europe

Transnational access: all major EU fish species + new species

AQUAEXCEL 2020

AQUAEXCEL partners
New in AQUAEXCEL2020

www.aquaexcel.eu

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TNAs at IATS

- 20 UNITS OF ACCESS TO IATS-ANA
- Maximum: 4 weeks/access
- 5 acceses

- 60 UNITS OF ACCESS TO IATS-EXP
- Maximum: 12 weeks/access
- 5 acceses

+ travel expenses (up to 500 eur) + subsistance expenses

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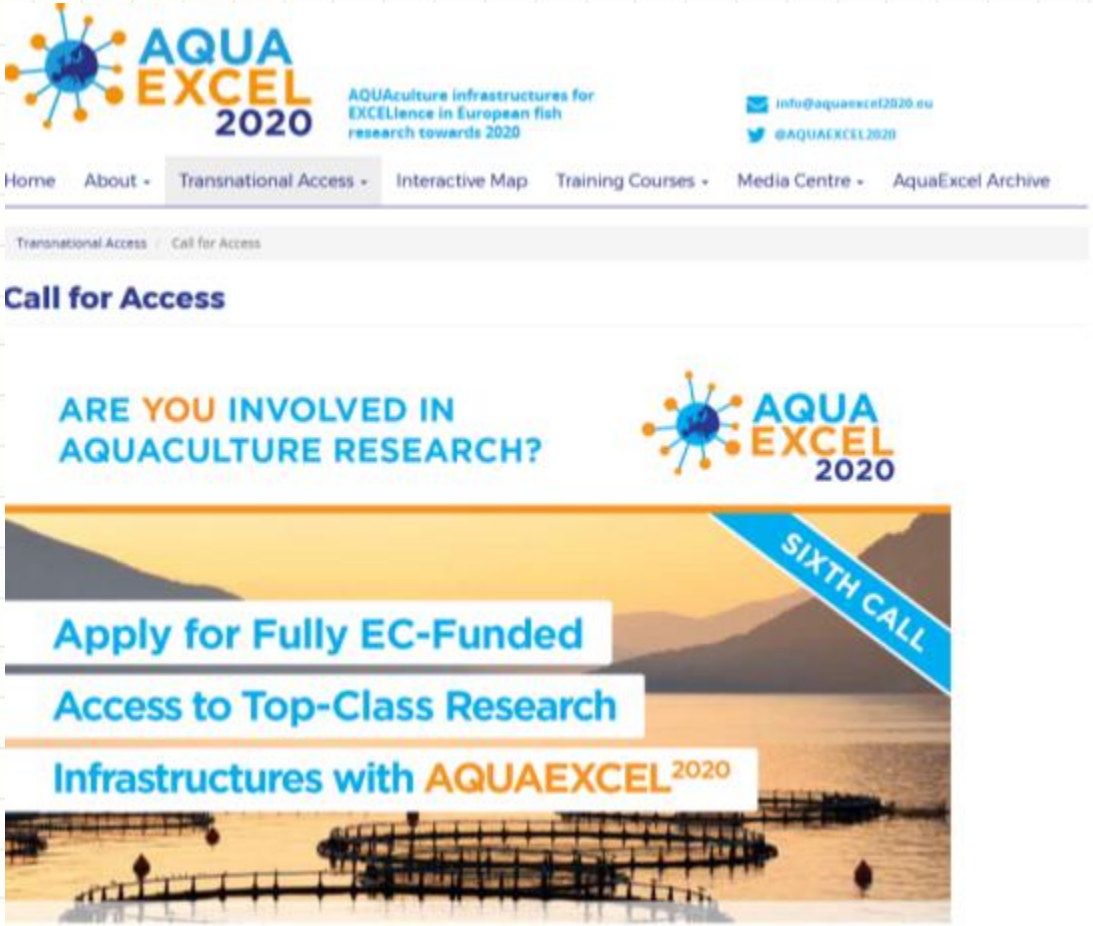
TNAs: How to apply? And when?

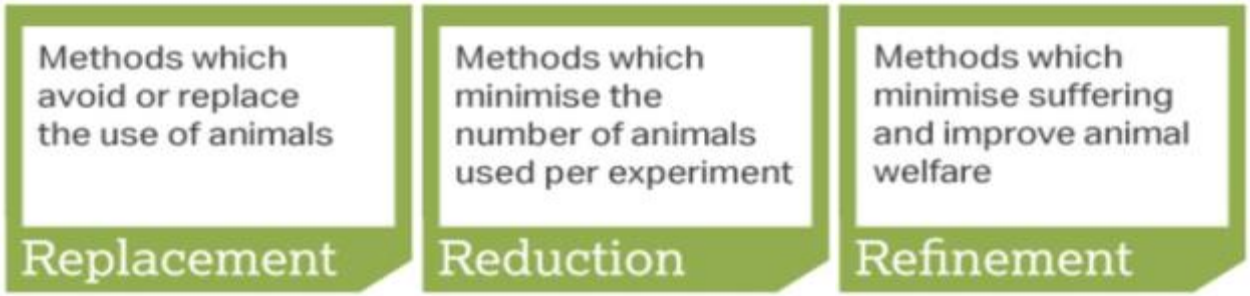
Every 3 months

www.aquaexcel2020.eu



TNAs, key data

- For academia, research and industry
- TRANSnational accesses (a different country than yours)
- Also allowed for non-UE countries
- Online application system (www.aquaexcel2020.eu).
- Proposals must contribute to meet the objectives of the European Aquaculture Technology and Innovation Platform (www.eatip.eu)
- Results are required to be made publicly available



IATS TNAs 2016-2017 (4/10)

Juan Fuentes (CCMAR, Portugal) May-June 2016
INTEBREAM "Electrophysiological testing of intestinal function and integrity in **sea bream** with different nutritional background"

Mar Marcos (GMIT, Ireland) March-April 2016
AGDBIOMAR "Study of genes and pathways involved in the epithelial and mucous cell hyperplasia in gills of farmed **Atlantic salmon** during infection with *Neoparamoeba perurans* and development of amoebic gill disease"

Isabel Forner (UPDM, Italy) May-June 2017
DISRUPBREAM "Effects of endocrine disruptors in the induction of obesity and reproductive activity alterations in ***Sparus aurata***: focus on endocannabinoid system"

Rodrigo Ozorio (CIIMAR, Portugal) late 2017
IMPROV-SEABASS "Effect of dietary *Gracilaria sp*. supplementation on the transcriptional response of **European sea bass** to a bacterial challenge"

AQUA EXCEL 2020

AQUAculture infrastructures for EXCELLence in European Fish research towards 2020

AN OPPORTUNITY TO USE TOP QUALITY RESEARCH FACILITIES

FREE!!

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