WOAH Collaborative Centre Reports Activities 2022

Activities in 2022
This report has been submitted: 27 janvier 2023 11:41

Centre Information

<table>
<thead>
<tr>
<th>Title of WOAH Collaborating Centre</th>
<th>Instituto Universitario de Sanidad Animal y Seguridad Alimentaria de la Universidad de Las Palmas de Gran Canaria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address of WOAH Collaborating Centre</td>
<td>Campus Universitario Cardones de Arucas, 35413 Arucas. (Canary Islands, Spain)</td>
</tr>
<tr>
<td>Tel.:</td>
<td>(+34) 928 459711</td>
</tr>
<tr>
<td>E-mail address:</td>
<td><a href="mailto:direccion_iusa@ulpgc.es">direccion_iusa@ulpgc.es</a></td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.iusa.eu">www.iusa.eu</a></td>
</tr>
<tr>
<td>Name Director of Institute (Responsible Official):</td>
<td>Antonio Fernández Rodríguez</td>
</tr>
<tr>
<td>Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):</td>
<td>Director: PhD Antonio Fernández Rodríguez</td>
</tr>
<tr>
<td>Name of the writer:</td>
<td>Antonio Fernández Rodríguez</td>
</tr>
</tbody>
</table>

TOR1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phylo-geographic analysis of Brucella ceti strains in marine</td>
<td>Investigation on Brucella ceti infection in marine mammals in</td>
</tr>
</tbody>
</table>
mammals of Italy (WGS) by WOAH Reference Laboratory for Brucellosis (IZSAM, Italy) recovered by C.Re.Di.Ma Diagnostic coordination activity, Italy

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genomic sequencing of morbillivirus strains in marine mammals of Italy, recovered by C.Re.Di.Ma diagnostic coordination activity, Italy</td>
<td>Investigation on morbillivirus infection in marine mammals in Italy, giving insights on genome sequences of strains circulating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of the International Whaling Commission (IWC) National Progress Report (PR)</td>
<td>Implementation of the National Progress Report (PR) with data related to C.Re.Di.Ma database and 2021 ship strike and by catch events recorded in Italy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEMMA stranding network collaboration</td>
<td>Histopathologic analysis of samples from stranded animals in the coasts of Galicia, Spain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andalucía stranding network collaboration</td>
<td>Histopathologic and molecular analysis of samples from stranded animals in the coasts of Andalucía, Spain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asturias stranding network collaboration</td>
<td>Asturias stranding network collaboration Histopathologic and molecular analysis of samples from stranded animals in the coasts of Asturias, Spain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title of activity</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantabria’s stranding network collaboration</td>
<td>Histopathologic and molecular analysis of samples from</td>
</tr>
<tr>
<td>Title of activity</td>
<td>Scope</td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>stranded animals in the coasts of Cantabria, Spain</td>
<td></td>
</tr>
<tr>
<td><strong>Epidemiology, surveillance, risk assessment, modelling</strong></td>
<td></td>
</tr>
<tr>
<td>GLOBICAN</td>
<td>Sanitary evaluation of the local groups of G. macrorhynchus in the Canary Islands, as well as of the risk factors for their conservation associated with the anthropic action on their areas of residency</td>
</tr>
<tr>
<td>Training, capacity building</td>
<td></td>
</tr>
<tr>
<td>Round table “Regional experiences on stranding events: discussion of case reports” Selection of significant and of dubious interpretation case reports (2021-2022)</td>
<td>This panel discussion was held within the Annual Congress of C.Re.Di.Ma. on May 4-5th, 2022. The aim was to increase the participants’ knowledge in the diagnostic field and to allow an effective exchange of views for the evaluation of diagnostic cases of doubtful interpretation. Participants: Italian Network of Istituti Zooprofilattici Sperimentali - Italian National Public Health Services - Italian Universities</td>
</tr>
<tr>
<td>Oceanographic Knowledge transference seminar</td>
<td>New technologies that contribute to the health and conservation of cetaceans</td>
</tr>
<tr>
<td>Zoonoses</td>
<td></td>
</tr>
<tr>
<td>Emerging and re-emerging zoonosis surveillance in marine mammals (i.e. brucellosis, salmonellosis, toxoplasmosis, etc) in Italy</td>
<td>Coordination of surveillance and control activities performed by the Italian National Public Health Services (Istituti Zooprofilattici Sperimentali network)</td>
</tr>
</tbody>
</table>

WOAH Collaborative Centre Reports Activities 2022
**Emergent viral diseases in cetaceans: pathologic and molecular diagnostic**

Histopathologic and molecular analysis of samples from stranded animals in the Canary Islands

**Collaboration with the General Direction of marine and terrestrial biodiversity in Ceuta, Spain, for the diagnostic of a stranding event in the coast of Ceuta.**

**Decompressive pathology in cetaceans**

Development of diagnostic tools for the decompressive pathology in cetaceans, as well as study of the action mechanisms of the disease.

**Encouragement of Whale Watching Activities**

Encouragement of the ecotourist whale watching activities as a model of sustainable economic development as well as of protection and conservation of the cetacean populations in the Macaronesian Area

**TOR3: HARMONISATION OF STANDARDS**

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

<table>
<thead>
<tr>
<th>Proposal title</th>
<th>Scope/Content</th>
<th>Applicable area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement of the ecotourist whale watching activities as a model of sustainable economic development as well as of protection and conservation of the cetacean populations in the Macaronesian Area</td>
<td></td>
<td>Laboratory expertise</td>
</tr>
</tbody>
</table>
Macaronesian Area

| Stranding trends Monitor stranding trends along Italian coastline; early detection of Unusual Mortality Events (UMEs) Development of a syndromic surveillance tool to monitor stranding trends, useful for early detection of Unusual Mortality Events (UMEs) | health management |

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

<table>
<thead>
<tr>
<th>Name of OIE CC/RL/other organisation(s)</th>
<th>Location</th>
<th>Region of networking Centre</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cetaceans’ strandings Emergency Response Team (CERT) of the University of Padua, Italy</td>
<td>Padua, Italy</td>
<td>Europe</td>
<td>Collaboration with the task force to intervene in case of stranding of live animals, large whales, mass strandings, and Unusual Mortality Events (UMEs), along the whole Italian peninsula.</td>
</tr>
<tr>
<td>Istituti Zooprofilattici Sperimentali diagnostic network (IZSPLV, IZSLT, IZSME, IZSSA, IZSSI, IZSPB, IZSAM, IZSUM, IZSLER, IZSVE)</td>
<td>Italy</td>
<td>Europe</td>
<td>Coordination of diagnostic investigations and data collection on stranded marine mammals</td>
</tr>
<tr>
<td>International Whaling Commission (IWC)</td>
<td>Impington, Cambridge, UK</td>
<td>Europe</td>
<td>Updating of the National Progress Report (PR) with data related to C.Re.Di.Ma database and 2021 ship strike and by catch events recorded in Italy.</td>
</tr>
<tr>
<td>CEMMA stranding Network</td>
<td>Galicia, Spain</td>
<td>Europe</td>
<td>Collaboration on diagnostic investigations and data collection of stranded marine mammals in Galicia, Spain</td>
</tr>
<tr>
<td>Cetaceans’ strandings Emergency Respose Team of the University of Las Palmas de Gran Canaria</td>
<td>Canary Islands, Spain</td>
<td>Europe</td>
<td>Response to the cases of cetacean strandings in the Canary Islands archipelago, performing the necropsy and managing the disposal of the carcass.</td>
</tr>
</tbody>
</table>
**TOR4 AND 5: NETWORKING AND COLLABORATION**

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

<table>
<thead>
<tr>
<th>Name of OIE CC/RL/other organisation(s)</th>
<th>Location</th>
<th>Region of networking Centre</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIE BRC</td>
<td>Italy</td>
<td>Europe</td>
<td>Brucella ceti typing</td>
</tr>
<tr>
<td>OIE BSE</td>
<td>Italy</td>
<td>Europe</td>
<td>Neuropathological investigations and diagnostic tools</td>
</tr>
<tr>
<td>OIE Scrapie</td>
<td>Italy</td>
<td>Europe</td>
<td>Neuropathological investigations and diagnostic tools</td>
</tr>
<tr>
<td>OIE Coll. Centre Animal/Human interface</td>
<td>Italy</td>
<td>Europe</td>
<td>Diagnosis of zoonotic agents</td>
</tr>
</tbody>
</table>

**TOR6: EXPERT CONSULTANTS**

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

**TOR7: SCIENTIFIC AND TECHNICAL TRAINING**

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit :

b) Seminars : 80
c) Hands-on training courses: 30

d) Internships (>1 month):

<table>
<thead>
<tr>
<th>TYPE OF TECHNICAL TRAINING PROVIDED (A, B, C OR D)</th>
<th>CONTENT</th>
<th>COUNTRY OF ORIGIN OF THE EXPERT(S) PROVIDED WITH TRAINING</th>
<th>NO. PARTICIPANTS FROM THE CORRESPONDING COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Providing scientific data on: emerging biological threats for cetaceans in the Mediterranean Sea; impact of anthropogenic activities on Marine Mammals Health; Persistent Organic Pollutants (POPs) and the health of marine mammals; the Accobams survey initiative-a tool to facilitate conservation effort across cultural, social and political boundaries; the role of Coast Guard on protection of the marine environment</td>
<td>Italy</td>
<td>6</td>
</tr>
<tr>
<td>B</td>
<td>Providing scientific data on: Veterinary Pathology and Cetacean Health and Conservation</td>
<td>Spain</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>Providing scientific data on: Management of unusual mortality events related to harmful algal blooms and oil spills</td>
<td>United States</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>Aquatic animal health and water environment: One Health WOAH- Europe activities</td>
<td>Central Asia</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>Workshop for the coordination of Marine Mammal Stranding Networks</td>
<td>Spain</td>
<td>7</td>
</tr>
</tbody>
</table>

**TOR8: SCIENTIFIC MEETINGS**

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

Yes

<table>
<thead>
<tr>
<th>NATIONAL/INTERNATIONAL</th>
<th>TITLE OF EVENT</th>
<th>CO-ORGANISER</th>
<th>DATE (MM/YY)</th>
<th>LOCATION</th>
<th>NO. PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Impact of environmental and climate changes on</td>
<td>WOAH- C.Re.Di.Ma</td>
<td>2022-10-01</td>
<td>Catania (Italy)</td>
<td>80</td>
</tr>
</tbody>
</table>
TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

27


Casalone C. “I cetacei, sentinelle della salute dei nostri mari”. Verde Ambiente, Year 2, Number 2, pag 7-8 – awarded in Sorrento (NA) - november 30th,2022

Title: Trophic position of dolphins tracks recent changes in the pelagic ecosystem of the Macaronesian region (NE Atlantic) Journal: Marine Ecology Progress Series 2022, 699, 167-180 https://doi.org/10.3354/meps14176
Citations: 0
IF: 2.915 (Q2-2021)

Title: Characterization of Traumatic Injuries Due to Motor Vehicle Collisions in Neotropical Wild Mammals Journal: Journal of Comparative Pathology 2022, 197, 1–18. https://doi.org/10.1016/j.jcpa.2022.06.003
Citations: 0
IF: 1.083 (Q3-2021)

Authors: Orós, J., Priestnall, S.L., Suárez-Bonnet, A.
Title: Histopathological description of iridophoromas resembling skin nodule syndrome in Siamese fighting fish Betta splendens
**Health of Marine Mammals**

**WOAH Collaborative Centre Reports Activities 2022**

---

**Journal:** Diseases of aquatic organisms 2022, 151, p. 23-27 [https://doi.org/10.3354/dao03686](https://doi.org/10.3354/dao03686)

**Citations:** 0

**IF:** 1.769 (Q2-2021)

**Authors:** Sacristán, C., Ewbank, A. C., Sánchez-Sarmiento, A. M., Duarte-Benvenuto, A., Borges, J., Rebelo, V. A., Díaz-Delgado, J., Borges Keid, L., & Catão-Dias, J. L.

**Title:** Erysipelas in a stranded common bottlenose dolphin: first report in a South American odontocete

**Journal:** Brazilian Journal of Microbiology 2022, [https://doi.org/10.1007/s42770-022-00810-5](https://doi.org/10.1007/s42770-022-00810-5)

**Citations:** 0

**IF:** 2.214 (Q4-2021)

**Authors:** Bartalini, A., Muñoz-Arnanz, J., García-Álvarez, N., Fernández, A., Jiménez, B.

**Title:** Global PBDE contamination in cetaceans. A critical review

**Journal:** Environmental pollution 2022, 308 (119670) [https://doi.org/10.1016/j.envpol.2022.119670](https://doi.org/10.1016/j.envpol.2022.119670)

**Citations:** 0

**IF:** 9.988 (Q1-2021)

**Authors:** Fernández, A., Jepson, P.D., Di Guardo, G.

**Title:** Impact of naval sonar systems on sealife mortality

**Journal:** Veterinary Record 2022, 190, 329-329. [https://doi.org/10.1002/vetr.1713](https://doi.org/10.1002/vetr.1713)

**Citations:** 0

**IF:** 2.560 (Q1-2021)

**Authors:** Sierra, E., Ramírez, T, Bernaldo de Quirós, Y, Arregui, M., Mompeó, B., Rivera, M.A., Fernández, A.

**Title:** Pulmonary and Systemic Skeletal Muscle Embolism in a Beaked Whale with a Massive Trauma of Unknown Aetiology

**Journal:** Animals 2022, 12 (508). [https://doi.org/10.3390/ani12040508](https://doi.org/10.3390/ani12040508)

**Citations:** 1

**IF:** 3.231 (Q1-2021)

**Authors:** Sacchini S, Fernández A, Mompeó B, Medina R, Arbelo M, Holgersen U, Quesada-Canales Ó, Castro-Alonso A, Andradâ M.

**Title:** Toothed Whales Have Black Neurons in the Blue Spot

**Journal:** Veterinary Sciences. 2022; 9(10)525. [10.3390/vetsci9100525](https://doi.org/10.3390/vetsci9100525)

**Citations:** 0

**IF:** 2.518 (Q2-2021)


**Title:** Budd-Chiari-like pathology in dolphins

**Journal:** Scientific Reports. 2022; 12(1)12635. [10.1038/s41598-022-16947-0](https://doi.org/10.1038/s41598-022-16947-0)

**Citations:** 0

**IF:** 4.996 (Q2-2021)

**Authors:** Consoli F, Bernaldo de Quirós Y, Arbelo M, Fulle S, Marchisio M, Encinoso M, Fernández A, Rivero M.

**Title:** Cetaceans Humerus Radiodensity by CT. A Useful Technique Differentiating between Species, Ecophysiology, and Age

**Journal:** Animals. 2022; 12(14)1793 [10.3390/ani12141793](https://doi.org/10.3390/ani12141793)

**Citations:** 0

**IF:** 3.231 (Q1-2021)

**Authors:** Câmara N, Fernández A, Herráez P, Arbelo M, Andrada M, Suarez-Santana CM., Sierra E.

**Title:** Microscopic Findings in the Cardiac Muscle of Stranded Extreme Deep-Diving Cuvier's Beaked Whales (Ziphius cavirostris)

**Journal:** Microscopy and Microanalysis. 2022; 28(5)1641-1648. [https://doi.org/10.1017/S1431927622000605](https://doi.org/10.1017/S1431927622000605)

**Citations:** 0
IF: 4.099 (Q1-2021)

Title: Molecular Characterization of Herpesviral Encephalitis in Cetaceans: Correlation with Histopathological and Immunohistochemical Findings
Citations: 0
IF: 3.231 (Q1-2021)

Authors: Fernández A, Sierra E, Arbela M, Gago A, Leao JM, García N, Bernaldo de Quirós Y, Arregui M, Vela A, Díaz-Delgado, J.
Title: First Case of Brevetoxinosis Linked to Rough-Toothed Dolphin (Steno bredanensis) Mass-Mortality Event in Eastern Central Atlantic Ocean: A Climate Change Effect?
Citations: 1
IF: 5.247 (Q1-2021)

Authors: Mompeó B, Sacchini S, Quintana MdP, Rivero M, Consoli F, Fernández A, Bernaldo de Quirós Y.
Title: Morphological Structure of the Aortic Wall in Deep Diving Cetacean Species: Evidence for Diving Adaptation.
Citations: 0
IF: 2.518 (Q2-2021)

Authors: Sacchini, S.; Herráez, P.; Arbela, M.; Espinosa de los Monteros, A.; Sierra, E.; Rivero, M.; Bombardi, C.; Fernández, A.
Title: Methodology and Neuromarkers for Cetaceans’ Brains.
Citations: 3
IF: 2.518 (Q2-2021)

Authors: Velázquez-Wallraf, A., Fernández, A., Caballero, M.J., Arregui, M., González Díaz, Ó., Betancor, M.B., Bernaldo de Quirós, Y.
Title: Establishment of a fish model to study gas-bubble lesions.
Journal: Scientific Reports 12, 6592 (2022) https://doi.org/10.1038/s41598-022-10539-8
Citations: 0
IF: 4.996 (Q2-2021)

Authors: Pennino, M.G., Rufener, M.-C., Giménez, J., Berlinguer, F., Bollo, E., Appino, S., Zucca, D., Chessa, G., Ratto, A.
Title: Understanding the causes of mortality and contaminant loads of stranded cetacean species in Sardinian waters (Italy) using Bayesian Hierarchical Models Journal: Journal of Sea Research 2022, 181
https://doi.org/10.1016/j.seares.2022.102170
Citations: 0
IF: 2.287 (Q2-2021)

Authors: Felipe-Jiménez, I.; Fernández, A.; Arbela, M.; Segura-Göthlin, S.; Colom-Rivero, A.; Suárez-Santana, C.M.; De La Fuente, J.; Sierra E.
Title: Molecular Diagnosis of Cetacean Morbillivirus in Beaked Whales Stranded in the Canary Islands (1999–2017).
Citations: 1
IF: 2.518 (Q2-2021)

Mediterranean Sea.
Citations: 0
IF: 3.231 (Q1-2021)

Title: CLINICO-PATHOLOGIC FINDINGS AND PATHOGEN SCREENING IN FUR SEALS (ARCTOCEPHALUS AUSTRALIS AND ARCTOCEPHALUS TROPICALIS) STRANDED IN SOUTHEASTERN BRAZIL, 2018
Citations: 2
IF: 1.626 (Q2-2021)

b) International conferences:

7


Antonia Fernandez: 30th Conference of the Regional Commission for Europe Catania, Sicily, Italy, 3-7 October 2022. Seminar “Impact of environmental and climate changes on Marine Mammals health” Title Veterinary Pathology and Cetacean Health and Conservation

Cristina Casalone; 30th Conference of the Regional Commission for Europe Catania, Sicily, Italy, 3-7 October 2022. Seminar “Impact of environmental and climate changes on Marine Mammals health”, Title of presentation: Emerging biological threats for cetaceans in the Mediterranean Sea

c) National conferences:

8
Cristina Casalone. Nuove opportunità di collaborazioni trans-frontaliere nel Mediterraneo. Annual Congress of C.Re.Di.Ma. May 4-5th,

Nicola Pussini. "*Il Mare in Rete*". Annual Congress of C.Re.Di.Ma. May 4-5th, 2022


Audino T. *Results of Research Project 16C05 funded by the Italian health Ministry "I mammiferi marini, sentinelle di un ambiente marino in mutazione: noxae patogene e contaminanti immunotossici in un’area del Mar Mediterraneo e dell’Oceano Atlantico"*. Convegno Ricerche Correnti 2022, Cuneo, December 14th 2022

d) Other (Provide website address or link to appropriate information):

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

12. Additional comments regarding your report: