

CURRICULUM VITAE

Krishna Das, PhD, FRS- FNRS Senior Research Associate
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Born the 12th March 1973
Belgian citizen

RESEARCH INTERESTS

Evaluation of biochemical and physiological responses of marine vertebrates exposed to organic and inorganic pollutants, including

- (1) The evaluation of the influence of the diet and key periods of life (fasting, gestation, nursing, migration, moulting, spawning) on organic and metallic pollutant levels in marine vertebrates (fish, turtles, birds and mammals)
- (2) The elaboration of *in vivo* and *in vitro* models to better understand the toxicity mechanisms and the effects of chronic exposure reflecting environmental levels.

PUBLICATIONS ([full list](#))

Krishna Das has a total amount of 82 peer-reviewed publications (excluding published proceedings), a H-index of 33 and 2603 citations (Google Scholar)

1. SCIENTIFIC EDUCATION

- 1998-2002. PhD in Sciences, University of Liege. Supervisor Prof. J.-M. Bouquegneau. Highest Honours *Cum Laude*.
- 1997. Complementary degree in Oceanology, University of Liege, High Honours
- 1996: Master in Animal Biology, University of Liege, Honours

2. CURRENT EMPLOYMENT

1st-October 2016: F.R.S.-FNRS Senior Research Associate (PI): Ecotoxicological, ecological and physiological responses of marine vertebrates facing chemical pollution (ULg)

1st October 2008- 30th September 2016: F.R.S.-FNRS Research Associate (PI) supported by F.R.S.-FNRS. Comparative and multidisciplinary study of anthropogenic impact on marine vertebrates (ULg)

3. PREVIOUS EMPLOYMENT

- **1st December 2004 – 30th September 2008.** Post-doctoral fellowship supported by the F.R.S.-FNRS. *Evaluation of the immunotoxicity of pollutants in marine mammals*. Research carried out in Laboratory for Oceanology - Mare, University of Liege, Belgium.
- **1st December 2002 - 30th November 2004.** Post-doctoral fellowship financed by the European Community (Marie-Curie Fellowship). *Study of impact of contaminants on thyroid and immune system of harbour porpoise*. Research carried out at Christian-Albrecht-Universität Zu Kiel, Forschungs- und Technologiezentrum Westküste (Germany). Coordinator: Prof. Prof. h.c. Dr. U. Siebert.
- **1st October 1999 - 30th September 2002.** Doctoral grant financed by FRIA doctoral fellowship. *Trace elements in marine mammals from the European coasts*.
- **1st April - 30th September 1999.** Research grant: *Modèle-Environnement*

4. ABROAD RESEARCH EXPERIENCE

- **1st August 2009- 15 February 2010.** University of South Florida – College of Marine Science. Endocrine disruption in fish. Exposure of the Sheepshead minnow *Cyprinodon variegatus* to endocrine disrupter (Dr. E. Montie and Prof. D. Mann), USA.

- **11th-25th June 2000, 2nd-8th September 2000, 15th - 23rd September 2001.** Biopsy campaign on marine mammals, Sea of the Hebrides (Scotland). Collaboration project with Dr P.G.H. Evans (Oxford College, Sea Watch Foundation), UK.
- **26th December 1998 - 26th March 1999.** INRS-Santé de Montréal, Canada (Canada, Prof. D. Cyr). Study of the immunospecificity of a commercial antibody (E9, Zymed) towards rabbit, rat and beluga metallothioneins. CGRI grant.

5. SUPERVISION AND CO-SUPERVISION OF PhD FELLOWS

	Name	Period	Title of the PhD
1	Nadège Domi	2000-2006	Trace elements in Elasmobranchs from the Northeast Atlantic (University of Liege)
2	Emilie Praca	2004-2008	Trophic ecology and habitat of teutophageous cetaceans from the Mediterranean Sea (University of Liege)
3	Paulo Renato Dorneles	2004-2008	Pollutants in marine mammals from the Brazilian coasts: Levels and effects (Federal University of Rio de Janeiro, Brazil, CNPq)
4	Elodie Guirlet	2005-2008	Study and impact of environmental pollutants on leatherback turtles <i>Dermochelys coriacea</i> from French Guyana (University of Paris, France)
5	Joseph Schnitzler	2006-2011	Evaluation of endocrine disruption in seabass (<i>Dicentrarchus labrax</i>) from the principal European estuaries: Effects of persistent organic pollutants and trace metals on their thyroid function (University of Liege - FRIA)
6	Sarah Habran	2007-2011	Effects of phocid life cycle key periods (lactation, post-weaning fast and moulting) on the trace element dynamics (University of Liege -FNRS)
7	Aurélien Dupont	2007-2011	Effects of methylmercury and selenium on harbour seal (<i>Phoca vitulina</i>) lymphocytes by functional, morphologic and proteomic analysis (University of Liege -FRIA)
8	Christelle Dyc	2007-2011	Trace element and pesticide toxicokinetics in turtles (University of Liege - FRIA)
9	Liesbeth Weijs	2008-2012	A physiologically based pharmacokinetic model for the accumulation of microcontaminants and immunological effects in harbour seals and harbour porpoises (University of Antwerp)
10	Els Vermeulen	2010-2013	Population ecology and biogeography of bottlenose dolphins (<i>Tursiops truncatus</i>) in the South-West Atlantic (University of Liege)
11	Alice Cransveld	2012-2016	Discrimination of mercury sources in <i>Dicentrarchus labrax</i> (University of Liege -FRIA)
12	France Collard	2012-2016	Microplastics in planktivorous fish (University of Liege -FRIA)
13	Pierre Gallego	2014-2018	Sources, levels and potential effects of pollutants in humpback whales, <i>Megaptera novaeangliae</i> (University of Liege).
14	Ana Carolina Pizzochero da Costa	2014-2018	Evaluation of the ontogenetic movements of the whitemouth croaker, <i>Micropogonias furnieri</i> , through otolith microchemistry and measurements of trace elements, methylmercury and stable isotopes of carbon and nitrogen (Federal University of Rio de Janeiro, CNPq)
15	France Damseaux	2015-2019	Modifications of halieutic resources in the North Sea: impact on the trophic ecology of marine mammals (University of Liege -FNRS)

6. SUPERVISION OF POST-DOC FELLOWS

	Name	Post-doc period	University of PhD graduation	Title
1	Stéphane Caut	2007-2008	University of Paris-Sud	Stable isotopes in marine mammals and fish: experimental approach
2	Elodie Guirlet		University of Paris-Sud	Toxicokinetics of pollutants in <i>Trachemys scripta elegans</i>
3	Paulo Dorneles	2015-2016	Federal University of Rio de Janeiro	Pollutant impact in marine mammals from Brazilian coasts
4	Joseph Schnitzler	2011-2015	University of Liege-FNRS	Endocrine disruption in fish

7. FUNDED RESEARCH PROJECTS

Not detailed here: national and international PhD and post-doc funding to supervise research fellows (see above)

2016-2019.

Using marine mammals for making science education and science careers attractive for young people. European Commission, H2020-SEAC-2015-1. Coordinator : Katrin Knickmeier, Kiel University.

2015-2016.

Analysis of methylmercury in biological samples using cold vapor atomic fluorescence spectrophotometry. ULg Research Council C-15/35

2015-2016.

Detection of food use, migratory behaviour and calving areas of the harbour porpoise *Phocoena phocoena* based on stable isotopes in the German Baltic Sea.

Forschungstiftung Ostsee. Coordinator Dr. Harald Benke, Meeresmuseum Stralsund.

2014 - 2016.

Mercury in riverine and marine Brazilian ecosystems: sources and biogeochemical cycle.

Belgian Coordinator: Dr. Krishna Das. Brazilian Coordinator: Dr. Olaf Malm.

Funding Agencies: Scientific cooperation established between Brazilian National Council for Scientific and Technological Development (CNPq -Proc.: Proc. 490279/2013-9) and FNRS (Fonds de la Recherche Scientifique - The Wallonia-Brussels Federation of Belgium)

2014 - 2016.

Methylmercury biomagnification and investigation on the use of trace elements as potential trophic tracers in coastal and Amazonian environments.

Coordinator: Dr. Paulo Dorneles.

Funding Agency: Brazilian National Council for Scientific and Technological Development (CNPq – Universal Proclamation - Proc.: 456614/2014-1).

2010 - 2015.

Entrance, trophic flow, critical areas and exporting of micropollutants in Rio de Janeiro state coastal bays and adjacent areas.

Coordinator: Dr. Olaf Malm.

Funding Agency: Coordination of Superior Level Staff Perfectioning (CAPES – “Ciências do Mar” Proclamation N.º 09/2009 Proc. 23038.051661/2009-18; Brazilian Ministry of Education).

2014-2015.

Trace metals levels in samples of muscle, kidney, liver and brain of Franciscana dolphin *Pontoporia blainvillei* and other marine mammal species from Buenos Aires province, Argentina. Bilateral scientific agreement (CONICET/FNRS): Argentinian Collaborator: Prof. Dr. M. Gerpe, University of Mar del Plata. Belgian coordinator: Dr. Krishna Das

2013-2014.

Discrimination of mercury sources in marine vertebrates.

Research funding by ULg University Research Council (Funding C-13/82):

2011-2014.

Transgenerational impacts of pollutants in aquatic vertebrates. Epigenetic, proteomic, endocrine and structural physico-chemical combined approaches – Research funding by F.R.S. – FNRS (FRFC n° 2.4635.11). Coordinator: Prof. Dr. F. Silvestre, UNamur.

2011 - 2013.

Evaluation of nektonic organism exposure to heavy metals and organohalogen compounds in Brazilian estuarine waters and investigation of possible harmful effects.

Belgian Coordinator: Dr. Krishna Das. Brazilian Coordinator: Dr. Olaf Malm.

Funding Agencies: Scientific cooperation established between Brazilian National Council for Scientific and Technological Development (CNPq -Proc.: 490471/2010-2) and FNRS.

2012 - 2013.

Evaluation of nektonic organism exposure to organotin compounds in Rio de Janeiro state littoral through measurements of total tin and stable isotopes of carbon and nitrogen.

Coordinator: Dr. Paulo Dorneles.

Funding Agency: Brazilian National Council for Scientific and Technological Development (CNPq – Universal Proclamation - Proc.: 484221/2011-6).

2007-2011

Toxicokinetics and physiological effects of persistent organic pollutants and trace metals in pinnipeds. Research founding by F.R.S.-FNRS (FRFC n° 2.4502.07). Coordinator Prof. Dr. C. Debier, UCL

2005-2006

Harbour porpoise viability in the Northeast Atlantic.

Research founding (ULg University Research Council C-06/59)

2005-2006

Evaluation of the immunotoxicity of mercury, zinc and polychlorinated biphenyls on cytokine secretion by marine mammals.

Research founding by F.R.S.-FNRS (1.5.037.06 F- C.C).

2005-2006

Evaluation of the immunotoxicity of mercury, zinc, polychlorobiphenyls and methyl sulfonyl polychlorinated biphenyls on cytokine and proteome expression in marine mammals.

Reintegration Marie-Curie Fellowship MERG-CT-2004-012893.

2002-2004

Study of impact of contaminants on thyroid and immune systems of harbour porpoise *Phocoena phocoena*. International Marie-Curie Fellowship EVK3-CT-2002-5009. Coordinator: Prof. Prof. h.c. Dr. U. Siebert.

8. SCIENTIFIC GRANTS AND AWARDS

- Benelux Congress of Zoology (2014). Best talk award. Pinzone M., Tasciotti A. Ody D., Lepoint G., Scholl G., Thomé JP, Budzinski H., Tapie N., Eppe G and Das K. POPs in free-ranging pilot whales and sperm whales from the Mediterranean Sea: influence of ecological factors.
- 28th Conference of the European Cetacean Society. Best short-talk presentation. Vermeulen E., Bräger S. Das, K. (2014). Population ecology of a resident population of common bottlenose dolphins *Tursiops truncatus* in North Patagonia, Argentina: the most popular dolphin species on its way out?
- Marie-Curie individual Fellowship (Score 89.8%) (2002-2004) (see employment section) and Marie-Curie Reintegration grant (2004-2005)
- 14th Annual Conference of the European Cetacean Society (Cork Ireland, 2-5th April 2000): Award for the Best Postgraduate Poster
- 13th Annual Conference of the European Cetacean Society (Valencia, Spain 5-8th April 1999): Nomination for the best postgraduate oral presentation
- Quatrième Forum des Jeunes Océanographes Prix Irma (11th December 1998): Best student Award

9. INVITATION AS KEYNOTE SPEAKER IN INTERNATIONAL MEETINGS AND UNIVERSITIES

- 5th November 2015. Environmental Science and Analytical Chemistry, Stockholm University (Prof. Elena Gorokhova). Invitation to give a talk entitled « Marine mammals as toxicological models to study the transfer of contaminants in the food chain »
- November 2013. V International workshop on pollutants in the environment. Rio de Janeiro, Brazil. Invitation to give a talk entitled: "Seals as sentinels of the marine environment".
- 7th -11th November 2011. [Run Sea Science](#) prospective Scientific Seminar. Invitation for plenary session: "Marine Pollution and implication for marine life and human society".
- 10th -12th November 2010. IV International workshop on pollutants in the environment. Rio de Janeiro, Brazil. Use of stable isotopes to study pollutants in marine vertebrates.
- 11th-13th May 2004. Eurocean 2004. Impact of contaminants on thyroid and immune system of harbour porpoise *Phocoena phocoena* from the Northeast Atlantic.

10. INTERNATIONAL CONFERENCE ORGANISATION

- Co-chair of the organizing and scientific Committees of the [28th Annual Conference of the European Cetacean Society](#) held in Liège, Belgium (5-9th April 2014).

- Co-chair of the organizing and scientific Committees of the 16th Annual Conference of the European Cetacean Society held in Liège, Belgium (7-11th April 2002).

11. SERVICES TO THE ACADEMIC AND SCIENTIFIC COMMUNITY

- Invited representative of University of Liège during the [Belgian Economic mission](#) in India led by HRH Princess Astrid of Belgium (24th November - 2nd December 2013).
- Vice-president of the [CC FNRS-ULg](#) (Contact committee FNRS-ULg) and Elected representative of the [CCS](#) (Conseil du Corps Scientifique) for the Science Faculty (2014)
- [Corsica challenge](#) organised by University of Liege for high school pupils. Member of the teaching staff.

12. TEACHING and STUDENT SUPERVISION

- Senior lecturer and holder at University of Liège devoted to Master in biology, Master in Oceanography and Master Erasmus mundus MER
 - [OCEA0062-1](#) Ecotoxicology and Biodegradation of Marine Pollutants
Part 2: Marine ecotoxicology
 - [OCEA0062-5](#) Ecotoxicology and Biodegradation of Marine Pollutants, Marine ecotoxicology
 - [OCEA0063-1](#) Biology of Marine Mammals
Part I Ecology and ecotoxicology
- Supervision and co-supervision of more than 26 bachelor and master students.
- Lecturer during the summer school held in STARESO, Calvi, Corsica: Introduction to Oceanography (holder and coordinator Prof. S. Gobert, University of Liege).
- From 2002 to 2006: Pollution of Biochemistry (7.5h).
- Invited Professor at Hanoi University of Agriculture (Vietnam, March 2009): Aquatic toxicology. Activity CUI-UAH "Appui à la formation des chercheurs", Sous activité "Cours disciplinaires avancés (Coordinator: Prof. Joseph Dufey).
- Courses at Belgian Academy of Sciences. Invited Professor. Stables isotopes in marine Ecology: tracking of pollutants in marine mammals.
- Invited member of the jury for PhD evaluation (2006-2014, 8 defences at ULg, ULB, University of La Rochelle...)

13. EXPERTISES

Expertise for the World Wide Fund

- 2014-2015. Use of blubber biopsies to assess the ecological status of cetaceans in the Mediterranean Sea (WWF-France).
- 2012. Trophic position and pollutants in whales from the Mediterranean Sea (WWF-France)
- 2011. Evaluation of the ecotoxicological effects of POPs and heavy metals, reflecting pathological, microbiological and genetic analyses, on the Mekong River population of Irrawaddy dolphins *Orcaella brevirostris*. World Wild Fund (WWF-Germany).

Referee for funding agencies and journals

- Research Council of Norway: project reviewer
- Harbor Branch Oceanographic Institution (HBOI, USA): project reviewer
- National Science Foundation (USA): project reviewer
- INTAS (**I**nternational **A**ssociation for the **P**romotion of **C**o-operation with **S**cientists from the **N**ew **I**ndependent **S**tates (**NIS**) of the Former Soviet Union)
- Member of the European Cetacean Society and the Society for Marine Mammalogy
- Member of the Society of Environmental Toxicology and Chemistry (SETAC)
- Reviewer for several international journals: *Environmental Pollution*, *Environmental Science & Technology*, *Environmental Monitoring and Assessment*, *Chemosphere*, *Oceania*, *Marine Environmental Research*, *Canadian Journal of Zoology*, *The Open Oceanography Journal*, *Marine Ecology Progress Series*...

14. SCIENTIFIC POPULARIZATION

Various popularization activities including conferences, radio, TV and popularization website papers (e.g. [Reflexions](#)).