

Jonathan Roques, PhD

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***Biologist, specialized in physiology and welfare
of aquatic species in aquaculture***

Current position: researcher, University of Gothenburg, Sweden

Work experience

Since Nov 2018	Researcher - Department of Biological and Environmental Sciences. University of Gothenburg, Sweden SWEMARC : the Swedish Mariculture Research center. <i>Developing sustainable aquaculture in Sweden</i>
2016-18	Postdoctoral researcher - Project NOMACULTURE . Department of Biological and Environmental Sciences. University of Gothenburg, Sweden <i>Finding optimal culture conditions for wolffish species in recirculating aquaculture systems (RAS)</i>
2015-16	University lecturer (ATER) - Équipe Écologie, Évolution, Symbiose, laboratoire Écologie et Biologie des Interactions, Université de Poitiers, France <i>'Stress response in terrestrial isopods': Characterization of the stress response in terrestrial isopods. Comparative study and multidisciplinary approach; physiology and behavior</i>
2014	Researcher (ATER) - Département de Biologie, Centre Universitaire de Mayotte, France <i>'Impact of waste water on physiology and osmoregulation of mangrove crabs': In vitro exposure of crabs to domestic effluent to validate an innovative wastewater treatment solution in a remote island</i>
2009-13	Doctoral researcher , Animal physiology department, Radboud University Nijmegen, The Netherlands <i>'Aspects of Fish Welfare in Aquaculture Practices': Identifying the negative impact of current aquaculture procedures on fish welfare and providing solution for a more sustainable production</i>
2007-09	Student assistant , Biology undergraduates level classes, Radboud University Nijmegen

Education - diplomas

2009-13	PhD. in Biology , Department of animal physiology (Radboud University Nijmegen, The Netherlands) Supervisor: Professor Gert Flik, PhD (head department)
2007-08	M.Sc. in Biology , Radboud University Nijmegen Research internship: improving welfare of European eel in RAS (9 months) M.Sc. Thesis: Reproduction in eels (genus <i>Anguilla</i>): current knowledge and perspectives
2006-07	First year of M.Sc. 'FENEC' (ecophysiology), with honors. University of Montpellier, France Research internship: Effects of stress on bone formation of the common carp. ERASMUS exchange at Radboud University Nijmegen (3 months)
2005-06	B.Sc. in 'Biology of the Organisms' with honors. University of Montpellier

Skills

Project management	<ul style="list-style-type: none">- Defining and structuring scientific project- Fundraising and budget management- Implementation and follow-up of collaborations with public and private sector partners
Writing and communication	<ul style="list-style-type: none">- Scientific writing (15 publications, 3 book chapters), technical reports, scientific mediation- Presentations at over 20 national and international conferences
Teaching and supervision	<ul style="list-style-type: none">- Biology practical classes and lectures at master and bachelor levels (> 640 hours)- Student supervision, bachelor level (6), master level (10) and postdoc level (1)- Jury in M.Sc. thesis defense committee
Scientific techniques	<ul style="list-style-type: none">- Divers biological assays <i>in vitro</i>, radioimmunoassay's, histology, electronic microscopy, mass spectrometry, fluorescence <i>in situ</i> hybridization, Ussing chambers- Rearing, nutrition and follow-up of organisms in controlled environments- Animal handling, biopsies and dissections, pit-tagging, behavioral quantification
Collective activities	<ul style="list-style-type: none">- Reviewer for grant attribution programs (NOAA Saltonstall-Kennedy Program, USA)- Reviewer for scientific journals (Aquaculture, Aquaculture research, Animals)- Reviewer for student abstracts (WAS)- Guest editor for Animals: current aspects of fish welfare in aquaculture practices (Special issue, 2020)- Publon profile: https://publons.com/author/1199975/jonathan-ac-roques#profile- Responsible for the monitoring of water quality for the aquaria of the Biological and Environmental Sciences department building, University of Gothenburg (Sweden)
IT skills	<ul style="list-style-type: none">- Microsoft Office, CorelDRAW, Statistica, SPSS, EthoVision, Endnote
Languages	<ul style="list-style-type: none">- French (native), English (bilingual), Spanish (fluent), Dutch (notions), Swedish (notions)

Publications list

► **As first author (7)**

- [Roques et al.](#) Stress response in terrestrial isopods: A comparative study on glycaemia [Applied Soil Ecology](#) (2020) 156: 103708
- [Roques, Schram et al.](#) The impact of elevated water nitrite concentration on physiology, growth and feed intake of African catfish, *Clarias gariepinus*. [Aquaculture Research](#) (2015) 46:1384-1395
- [Roques, Schram et al.](#) The impact of elevated water nitrate concentration on physiology, growth and feed intake of African catfish, *Clarias gariepinus* (Burchell, 1822). [Aquaculture Research](#) (2014) 45:1499-1511
- [Roques, Schram et al.](#) The impact of elevated water ammonia and nitrate concentrations on physiology, growth and feed intake of pikeperch (*Sander lucioperca*). [Aquaculture](#) (2014) 420-421:95-104
- [Roques et al.](#) Physiological and behavioural responses to an electrical stimulus in Mozambique tilapia (*Oreochromis mossambicus*). [Fish Physiology and Biochemistry](#) (2012) 38:1019-28
- [Roques, Schram, et al.](#) The impact of elevated water ammonia concentration on physiology, growth and feed intake of African catfish (*Clarias gariepinus*). [Aquaculture](#) (2010) 306:108-115
- [Roques, Abbink et al.](#) Tailfin clipping, a painful procedure: Studies on Nile tilapia and common carp. [Physiology and Behavior](#) (2010) 101:533-540

► **As co-author (10)**

- [Brijs et al.](#) Prevalence and severity of cardiac abnormalities and arteriosclerosis in farmed rainbow trout (*Oncorhynchus mykiss*). [Aquaculture](#) (2020) 526:735417
- [Guo et al.](#) Effects of different feeding regimes on juvenile black rockfish (*Sebastes schlegilii*) survival, growth, digestive enzyme activity, body composition and feeding costs. [Aquaculture Research](#) (2020) *in press*

- Knutsen *et al.* Fish welfare, fast muscle cellularity, fatty acid and body-composition of juvenile spotted wolffish (*Anarhichas minor*) fed a combination of plant proteins and microalgae (*Nannochloropsis oceanica*). [Aquaculture](#) (2019) 506:212-223
- Theuerkauf *et al.* Salinity variation in a mangrove ecosystem: a physiological investigation to assess potential consequences of salinity disturbances on mangrove crabs. [Zoological studies](#) (2018) 57:36
- Grandjean, J Roques *et al.* Status of *Pacifastacus leniusculus* and its role in recent crayfish plague outbreaks in France: improving distribution and crayfish plague infection patterns. [Aquatic Invasions](#) (2017) 12:541-549
- Garcia *et al.* Ambient salinity and osmoregulation, energy metabolism and growth in juvenile yellowtail kingfish (*Seriola lalandi* Valenciennes 1833) in a recirculating aquaculture system. [Aquaculture Research](#) (2015) 46:2789-2797
- Boerrigter *et al.* Recovery from transportation by road of farmed European eel (*Anguilla anguilla*). [Aquaculture Research](#) (2015) 46:1248-1260
- Palstra *et al.* Forced sustained swimming exercise at optimal speed to enhance growth performance of yellowtail kingfish. [Frontiers in Aquatic Physiology: Physiological adaptations to swimming in fish](#) (2015) 5: article 00506
- Manuel, *et al.* Stress in African catfish (*Clarias gariepinus*) following overland transportation. [Fish Physiology and Biochemistry](#) (2014) 40:33-44
- Abbink, *et al.* The effect of temperature and pH on the growth and physiological response of juvenile yellowtail kingfish (*Seriola lalandi*) in recirculating aquaculture systems. [Aquaculture](#) (2012) 330-333:130-135

Technical reports, science popularization and outreach

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|------|--|
| 2019 | Sundell, <i>et al.</i> SWEMARC annual report. University of Gothenburg, <i>in preparation</i> . Technical report |
| 2018 | Sundell, <i>et al.</i> NOMACULTURE final report. University of Gothenburg, 31 pages. Technical report
Sundell, <i>et al.</i> SWEMARC annual report. University of Gothenburg, 75 pages. Technical report |
| 2017 | Sundell, <i>et al.</i> NOMACULTURE annual report. University of Gothenburg, 40 pages. Technical report
Sundell, <i>et al.</i> SWEMARC annual report. University of Gothenburg, 58 pages. Technical report |
| 2016 | Sundell, <i>et al.</i> NOMACULTURE annual report. University of Gothenburg, 44 pages. Technical report
Sundell, <i>et al.</i> SWEMARC annual report. University of Gothenburg, 25 pages. Technical report |
| 2014 | Schram, Roques <i>et al.</i> Hoe giftig zijn ammonia en nitraat voor snoekbaars? Aquacultuur 29, 12-17. Specialized press article (in Dutch) |
| 2012 | Schram, Roques <i>et al.</i> Hoe giftig is nitraat voor Afrikaanse meerval? Aquacultuur 27, 6-11. Specialized press article (in Dutch)
Documentary V.I.S.S.E.N , Pieter-Rim et Maarten de Kroon (Windmill films, The Netherlands). Video appearance and technical assistance for the scenes shot at Radboud University Nijmegen |
| 2011 | Abbink <i>et al.</i> Vissen voelen pijn: dier & welzijn, V-focus 8, 30-31. Specialized press article (in Dutch)
Abbink <i>et al.</i> Kweek van yellowtail kingfish (<i>Seriola lalandi</i>) in Nederland. Aquacultuur 26, 21-25. Specialized press article (in Dutch) |
| 2010 | Schram, Roques <i>et al.</i> Het effect van verhoogde ammonia concentratie in het water op fysiologie, groei en voeropname van Afrikaanse meerval (<i>Clarias gariepinus</i>). Ijmuiden : IMARES, (Rapport C026/10) 29 pages. Technical report (in Dutch) |
| 2009 | Abbink, Roques <i>et al.</i> Differential Responses of Nile Tilapia (<i>Oreochromis Niloticus</i>) to Fin Clip Wounding and Related Stress: Perspectives. Yerseke: IMARES, (Report C133/09) 25 pages. Technical report |

Book chapters

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| 2018 | FLUORESCIENCES BIOLOGIE (Dunod editors, Paris). Biology Undergraduate (1st year) textbook, 432 pages, first Edition: 10/10/2018, ISBN: 978-2-10-076515-7. <i>In French. Main author on:</i> <ul style="list-style-type: none"> - Chapter 1: Histoire des classifications: vers la classification actuelle (<i>history of phylogeny</i>) - Chapter 11 : Génétique mendélienne et méiose (<i>genetic</i>) - Chapter 15 : Métazoaires : développement et principaux phylums (<i>animal development and taxonomy</i>) |
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Conferences, seminars

► Presenting author

- 2020 **Nationella Vattenbrukskonferensen**, Åhus, Sweden (10-11/03). Tekniska innovationer för marina RAS. **Poster**
- 2019 **MIRAI sustainability workshop**, Stockholm University, Stockholm, Sweden (11-14/11). Mariculture technical innovations in Sweden. **Oral presentation and poster**
- Hiroshima University**, Higashi-Hiroshima, Japan (13/06). Sustainable development of aquaculture in closed containment systems. **Seminar**
- MIRAI sustainability workshop**, TokyoTech, Tokyo, Japan (28-29/3). Mariculture technical innovations in Sweden. **Oral presentation**
- Danish aquaculture day**, Blue Planet aquarium, Copenhagen, Denmark (12/3). Aquaculture in closed containment systems- health and welfare of farmed fish. **Oral Presentation**
- 2018 **Marine challenges blue solutions**, Chalmers, Gothenburg, Sweden (6-7/11):
- Marine cold-water RAS. **Poster**
 - Wolffish in RAS. **Poster**
- AquaAgri final conference**, Stockholm, Sweden (23/10):
- Marine cold-water RAS. **Poster**
 - Wolffish in RAS. **Poster**
- MIRAI sustainability workshop**, SOPHIA university, Tokyo, Japan (9-12/10). Mariculture technical innovations in Sweden. **Oral presentation and poster**
- Aquaculture 2018: recent advances in aquaculture research**, Qingdao, China (25-28/09). Effects of environmental warming on growth, metabolism and stress responses in Atlantic wolffish (*Anarhichas lupus*). **Poster and lightening talk**
- MIRAI sustainability workshop**, Gothenburg, Sweden (7-8 /06). SWEMARC: the Swedish mariculture research center at the university of Gothenburg. **Oral presentation.**
- 2017 **Colloque d'écophysiologie Animale (CEPA3)**, Strasbourg, France (6-8/11). Stress response of terrestrial isopods: a comparative study on glycemia. **Poster**
- 2015 **Aquaculture 2015 : Cutting Edge Science in Aquaculture**, Montpellier, France (23-26/08):
- Aspects of fish welfare in aquaculture practices. **Oral presentation**
 - The impact of elevated water nitrogenous wastes concentration on physiology, growth and feed intake of African catfish and pikeperch. **Poster**
- Liverpool University**, Liverpool, UK (17/06) Responsible use of natural resources: fish welfare in aquaculture and mangrove management. **Seminar**, Institute of Integrative Biology, Dr Lynne Sneddon. **Seminar**
- 2012 **IWWR PhD day**, Radboud University Nijmegen, The Netherlands (14/11). Fish welfare: why does it matter? A glance in a PhD thesis on stress and pain in fish. **Oral presentation**
- IMARES PhD day**, Texel, The Netherlands (30/11). Fish welfare: why does it matter? A glance in a PhD thesis on stress and pain in fish. **Oral presentation**
- 2011 **HAS (Humane Slaughter Association) Centenary International Symposium**, Portsmouth, UK (30/06-01/07). Nociception and pain in fish: implications for practices in the aquaculture chain. **Poster**
- 2010 **IWWR PhD day**, Radboud University Nijmegen (18/11). The impact of elevated water ammonia concentration on physiology, growth and feed intake of African catfish. **Oral presentation**
- 2009 **NVG (Netherlands Society for Behavioural Ecology) workshop** Dalfsen, The Netherlands (25/11). Behaviour changes as indicators of pain and welfare impairment of farmed fishes. **Oral presentation**
- 2008-2013 **Guest lecturer**, University of Montpellier, during the master's course 'Ecology'. This course, entirely in English gives the opportunity to French students to hear presentations from international scientists, in English, and promotes the ERASMUS exchange program

► Co-author

- 2020 **Nationella Vattenbrukskonferensen**, Åhus, Sweden (10-11/03):
- Regnbåge med ölmage. **Presentation**
 - Musselmjöl kan ersätta fiskmjöl i foder till havskatt. **Poster**
- 2018 **Aquaculture 2018: recent advances in aquaculture research**, Qingdao, China (25-28/09). Effect of dietary protein level on growth and health of juvenile Atlantic wolffish (*Anarhichas lupus*). **Poster**
- 2015 **SEB (Society for Experimental Biology) 2015** Prague, Prague, Czech Republic (1/07). Effect of wastewater discharge on the ecology and physiology of mangrove crabs. **Poster**
- Western Indian Ocean Marine Science Association (WIOMSA) 9th symposium**, Wild Coast Sun, South Africa (26-31/10). Crabs as mangrove bioindicators. **Poster**
- 2013 **SEB 2013 Valencia**, Valencia, Spain (3-6/07 2013). Swimming performance of juvenile yellowtail kingfish (*Seriola lalandi*). **Presentation**
- 2012 Proceedings of **Aqua 2012 Global Aquaculture - securing our future**, Prague (1-5/09):
- Exposure of fish to high nitrate in recirculating aquaculture systems affects growth, feed intake and physiology. **Poster**
 - Stress response in farmed African catfish, *Clarias gariepinus* and European eel, *Anguilla anguilla*, to overland transport. **Oral presentation**
- 2011 **HAS Centenary International Symposium**, Portsmouth, UK (30/06-01/07). Assessment of road transport of farmed African catfish and European eel with respect to animal welfare. **Poster**
- European Aquaculture Society, Aquaculture Europe 2011 - "Mediterranean Aquaculture 2020"**, Rhodes, Greece (18-21/10):
- Pain and discomfort in fish: studies on Nile tilapia (*Oreochromis niloticus*), common carp (*Cyprinus carpio*) and zebrafish (*Danio rerio*). **Oral presentation**
 - Culture of yellowtail kingfish (*Seriola lalandi*) in RAS. **Oral presentation**
- 2010 Proceedings **Aquaculture Europe 2010**, Porto, Portugal (5-8/10). Tailfin clipping: a painful procedure: studies on Nile tilapia (*Oreochromis niloticus*) and common carp (*Cyprinus carpio*). **Oral presentation**

Supervision of undergraduate / graduate students

Year	University	Student identity	Level	Duration	Supervision rate
2020	Gothenburg	Marie Montjouridès	Master	6 months	100%
2019	Gothenburg	Nedia Matusse	Post-doc	18 months	35%
	Gothenburg	Miguel Guerreiro	Master	3 months	100%
2018	Gothenburg	Alexander Thorén	Master	6 months	15%
	Gothenburg	Hans Sandholt	Bachelor	2 weeks	100%
	Gothenburg	Robert Morgan	Bachelor	3 months	25%
	Gothenburg	Felicia Fetscher	Bachelor	3 months	100%
2017	Gothenburg	Koen de Reus	Bachelor	6 months	100%
2016	Poitiers	Camille Houdelet	Master	3 months	50%
2014	CUFR de Mayotte	Laurence Azzopardi	Master	6 months	90%
2012	Nijmegen	Tirsa van Schaik	Bachelor	3 months	100%
2011	Nijmegen	Margot Bekhuis	Master	6 months	90%
	Nijmegen (ERASMUS)	Yanik Yokohama	Master	3 months	100%
2010	Nijmegen (ERASMUS)	Aurelie Fourneyron	Master	3 months	100%
	Nijmegen (ERASMUS)	Gaétan Chereau	Master	3 months	100%
2009	Nijmegen	Femke Geurds	Master	6 months	90%
2007	Nijmegen	Erik Ducker	Bachelor	3 months	75%

Teaching experience

Year	University	Level	Type*	Course name	Hours
2020	Gothenburg	Bachelor	LE	Integrativ biomedicine	3
2019	Gothenburg	Master	LE	MARBIO	3
2019	Gothenburg	Bachelor	LE	Integrativ biomedicine	3
2019	Gothenburg	Master	LE/TU	Marine blue economy	26
2019	Gothenburg	Master	LE/TU	Marine Animal Species	33
2018	Gothenburg	Master	LE	Marine Animal Species	3
2017	Gothenburg	Master	LE	Marine Animal Species	3
2017	Poitiers	Master	SE-LE	Advanced projects in Ecology	3
2016	Poitiers	Master	PT	Génétique des populations	12
2016	Poitiers	Master	LE/TU/PT	Ecophysiologie et chronobiologie	15
2016	Poitiers	Bachelor	TU	Sexualité et reproduction	6
2016	Poitiers	Bachelor	TU/PT	Evolution des plans d'organisation	39
2015	Poitiers	Bachelor	TU/PT	Organismes et milieux	44
2015	Poitiers	Master	SE-LE	Stratégies évolutives	4
2015	Poitiers	Master	PT	Modeling and statistic tools	8
2015	Poitiers	Master	PT	Advanced projects in Ecology	8
2015	Poitiers	Master	SE	Travaux de recherche	2
2015	Poitiers	Master	PT	Molecular ecology	8
2015	Poitiers	Bachelor	TU/PT	Diversité du vivant	53
2015	Poitiers	Bachelor	PT	Diversité du vivant	24
2014	Mayotte	Bachelor	PT	Histologie	8
2013	Nijmegen	Master +	LE	Laboratory Animal Sciences	4
2013	Nijmegen	Master	LE	Animal Physiology	6
2013	Nijmegen	Master	LE	Endocrinology	6
2013	Montpellier	Master	SE-LE	Ecology	8
2012	Nijmegen	Master +	LE	Laboratory Animal Sciences	4
2012	Nijmegen	Master	LE	Animal Physiology	6
2012	Nijmegen	Master	LE	Endocrinology	6
2012	Montpellier	Master	SE-LE	Ecology	8
2011	Nijmegen	Master +	LE	Laboratory Animal Sciences	4
2011	Nijmegen	Master	LE	Animal Physiology	6
2011	Nijmegen	Master	LE	Endocrinology	6
2011	Montpellier	Master	Seminar-LE	Ecology	8
2011	Nijmegen	Bachelor	PT	Cytology-histology	40
2010	Montpellier	Master	Seminar-LE	Ecology	8
2010	Nijmegen	Bachelor	PT	Cytology-histology	40
2009	Montpellier	Master	Seminar-LE	Ecology	8
2009	Nijmegen	Bachelor	PT	Endocrinology	20
2009	Nijmegen	Bachelor	PT	Cytology-histology	40
2008	Montpellier	Master	Seminar-LE	Ecology	8
2008	Nijmegen	Bachelor	PT	Endocrinology	20
2008	Nijmegen	Bachelor	PT	Cytology-histology	40
2007	Nijmegen	Bachelor	PT	Cytology-histology	40
Total =					644

* SE = research seminar, LE = Lectures, PT = Practical Tutorial, TU Tutorial

Qualifications / habilitations

- Since 2020: qualified as lecturer by the French National University Council in physiology (section 66, qualif. no. 20266274316) and biology of the organisms (section 68, qualif. no. 20268274316). Validity: 2020-2025
- Certified to design and perform animal studies (FELASA, category C)
- Certified to work with radioactive substances

Grant

- 2020 **Travel grant, STINT**, Stockholm, Sweden. 400,000 SEK (period 2020-2022). **Project MARTINIS**. Collaborative project MARTINIS (Mariculture technical innovations in Sweden) between the universities of Gothenburg and Lund (Sweden) and Hiroshima (Japan). Project coordinator
- Research grant**, Helge Axelsson Johnsons foundation, Stockholm, Sweden, 70,000 SEK
- Research grant**, Wilhelm och Martina Lundgrens foundation, Gothenburg, Sweden, 57,000 SEK
- Research grant**, Familjen Kamprads foundation, Växjö, Sweden. [Projet AkvaCirculär](#), 15,000,000 SEK. Co-applicant. Coordinator: Prof. Kristina Snuttan Sundell
- 2019 **Research grant**, Helge Axelsson Johnsonsfoundation, 80,000 SEK
- Initiation grant**, STINT, 150,000 SEK. To initiate our collaborative project [MARTINIS](#) (Mariculture technical innovations in Sweden) between the universities of Gothenburg and Lund (Sweden) and Hiroshima (Japan)
- Incentive fund for Networks & projects**, University of Gothenburg, Gothenburg, Sweden, 28,000 SEK. To attend the MIRAI workshops in Tokyo and Stockholm
- Travel grant**, Knut and Alice Wallenberg, Stockholm, Sweden, 9,000 SEK. To attend the AES conference 2019, Berlin (Germany)
- 2018 **Incentive fund for Networks & projects**, University of Gothenburg, 18,500 SEK. To attend the MIRAI workshop, Tokyo
- Travel grant**, Knut and Alice Wallenberg foundation, 12,000 SEK. To attend the AQUA 2018, Qingdao (China)
- 2017 **Travel grant**, Knut and Alice Wallenberg, 4,250 SEK. To attend the CEPA3, Strasbourg (France)
- Travel grant**, Company of biologists, Cambridge, UK, 400 €. To attend the CEPA3, Strasbourg (France)

References

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