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PERSONAL DATA

Date of birth: 28th October 1977

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RESEARCH INTERESTS

- Virus ecology, diversity, evolution
- Microbes interactions
- Marine ecosystems dynamics and ecology
- Carbon biogeochemical cycle

RESEARCH EXPERIENCE

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| Since 2011 | Research associate at CNRS |
| 2009-2011 | Postdoc at the European Institute for Marine Studies (IUEM), France |
| 2007-2009 | Postdoc at the Scripps Institution of Oceanography (SIO), USA |
| 2002-2007 | PhD in Natural Sciences at the Royal Netherlands Institute for Sea Research (NIOZ), The Netherlands |

ONGOING RESEARCH PROGRAMS

- ANR JCJC « CALYPSO » : Exploration des glycosidases associées aux virus marins (2015 – 2019, PI :A-C Baudoux)
- CG20 “DYNAMO” : Interactions durables et contrôle des blooms et successions de diatomées en Manche Occidentale (2015 – 2018, PI : A-C Baudoux, N. Simon)
- SADv2 « PATHOGEN » : Molecular Interactions between marine Prasinoviruses and their hosts using emerging omics approaches (2014 - 2016, PI :A-C Baudoux)
- ANR Blanc « REVIREC »: Resistance to prasinoviruses analysed by transcriptomics and recombination (2012-2016, PI: N. Grimsley)

PUBLICATIONS

Submitted

Brussaard C.P.D., Baudoux A-C., Rodriguez-Varela F. Marine Viruses. MACUMBA Book

Publiées ou sous presse (23)

Baudoux A-C., Lebredonchel H., Dehmer H., Guillou L., Bozec Y., Cariou T., Desdevisse Y., Derelle E., Edern R., Foulon E., Grimsley N., Jalabert F., Latimier M., Moreau H., and Simon N. **2015**. Interplay between *Micromonas* species and their viruses in the Western English Channel. *Environmental Microbiol Reports* 7(5): 765–773

- Lelchat F., Cérantola S., Brandily C., Collic-Jouault S., Baudoux A-C., Ojima T., Boisset C. The marine bacteria *Cobetia marina* DSMZ 4741 synthesizes an unexpected K-antigen-like exopolysaccharide **2015**. Carbohydrate Polymers 124: 347-356
- Lossouarn J., Nesbø C.L., Mercier C., Zhaxybayeva O., Johnson M.S., Cahrchuck R., Farasin J., Bienvenu N., Baudoux A-C., Michoud G., Jebbar M., Geslin C. **2015**. "Ménage à trois": a selfish genetic element uses a virus to propagate within *Thermotogales* strain. Environmental Microbiol 17(9): 3278-3288
- Lelchat F., Brandily C., Cozien J., Le Costauvec T., Baudoux A-C., Collic-Jouault, S., Boisset C. **2014**. Exopolysaccharide biosynthesis and biodegradation by a marine hydrothermal *Alteromonas* sp. strain. Applied Microbiology and Biotechnology 99(6): 2637-2647
- Pulido-Villena E., Baudoux A-C., Obernosterer I., Caparros J., Catala P., Georges C., Harmand J., Landa M., Guieu C. **2014**. Microbial food web dynamics in response to a Saharan dust event: results from a mesocosm study in the oligotrophic Mediterranean Sea. Biogeosciences 11, 5607–5619
- Nguyen Kim H., Bouvier T., Bouvier C., Doan Nhu H., Nguyen Ngoc L., Rochelle-Newall E., Baudoux A-C., Desnues C., Reynaud S., Ferrier-Pages C., Bettarel Y. **2014**. High occurrence of viruses in the mucus layer of scleractinian corals. Environ Microbiol Reports 6(6) 675–682
- Maat D.S., Bale N.J., Hopmans E.C., Baudoux A-C., Sinninghe Damsté J.S., Schouten S., and Brussaard C.P.D. **2014**. Acquisition of intact polar lipids from the Prymnesiophyte *Phaeocystis globosa* by its lytic virus PgV-07T. Biogeosciences, 11, 185-194
- Baudoux A-C., Hendrix R., Lander G. C., Bailly X., Podell S., Paillard C. Johnson J. E. , Potter C. S., Carragher B., and Azam F. **2012**. Genomic and functional analysis of *Vibrio* phage SIO-2 reveals novel insights into ecology and evolution of marine siphoviruses Environmental Microbiology 14(8):2071-86
- Lander G. C., Baudoux A-C., Azam F., Potter C. S., Carragher B., Johnson J. E. **2012**. Capsomer dynamics and stabilization in particles with T=12 quasi-symmetry; the cryoEM reconstructions of the marine bacteriophage SIO-2 and its procapsid. Structure 20: 498 - 503
- Cheize M., Sarthou G., Croot P., Bucciarelli E., Baudoux A-C., Baker A. **2012**. Determination of iron organic speciation in rainwater by Cathodic Stripping Voltammetry. Anal Chim Acta 736: 45-54
- Bozec Y., Merlivat L., Baudoux A-C., Beaumont L., Blain S., Bucciarelli E., Danguy T., Grossteffan E., Guillou J., Guillot A., Répécaud M., Tréguer P. **2011**. Inter-annual to diurnal dynamics of pCO₂ recorded by a CARIOCA sensor in a temperate coastal ecosystem (2003-2009). Marine Chemistry 126 : 13-26
- Uitz J., Stramski D., Baudoux A-C., Reynolds R.A. , Wright V.M., Dubranna J., Azam F. **2010**. Variations in the optical properties of a particle suspension associated with viral infection of marine bacteria. Limnology and Oceanography 55: 2317-2330
- Baudoux A-C. and Brussaard C.P.D. **2008**. Effect of irradiance on viral infection of two marine phytoplankton. Journal of Phycology 44: 902-908
- Parada V., Baudoux A-C., Sintès E., Weinbauer M. and Herndl G. **2008**. Dynamics and diversity of newly produced virioplankton in the North Sea. The ISME J 2: 924- 936
- Baudoux A-C., Veldhuis M.J.W., Noordeloos A.A.M., van Noort G., and Brussaard C.P.D. **2008**. Estimates of virus- vs. grazing induced mortality of phytoplankton in the North Sea during summer 2003. Aquatic Microbial Ecology 52: 69–82
- Baudoux A-C., Veldhuis M.J.W., Witte H.J., and Brussaard C.P.D. **2007**. Viruses as mortality agents in deep chlorophyll maximum layer during IRONAGES III. Limnology and Oceanography 52: 2519-2529
- Tijdens M., Hoogveld H.L., Kamst-van Agterveld M.P., Simis S.G.H., Baudoux A-C., and Gons H.J. **2007**. Seasonal dynamics of viral, bacterial, and cyanobacterial populations in a shallow, highly eutrophic lake. Microbial Ecology 56: 29-42
- Lymer D., Logue J. B., Brussaard C.P.D., Baudoux A-C., Vrede K., and Lindström, E.S. **2007**. Temporal variation in viral and bacterial assemblage compositions. Freshwater Biology 53: 1163-1175.
- Brussaard C.P.D., Bratbak G., Baudoux A-C., and Ruardij. P. **2007**. *Phaeocystis* and its interaction with viruses. Biogeochemistry 83: 201-215.

- Baudoux A-C., Noordeloos A.A.M, Veldhuis M.J.W., and Brussaard C.P.D. **2006**. Virally induced mortality of *Phaeocystis globosa* during two spring blooms in temperate coastal waters. *Aquatic Microbial Ecology* 44: 207-217.
- Baudoux A-C. and Brussaard C.P.D. **2005**. Characterization of different viruses infecting the marine harmful algal bloom species *Phaeocystis globosa*. *Virology* 341: 80-90.
- Créach V., Baudoux A-C., Bertru G., and Le Rouzic B. **2003**. Direct estimate of active bacteria: CTC use and limitations. *Journal of Microbiological Methods* 52: 19-28.
- Lebaron P., Servais P., Baudoux A-C., Bourrain M., Courties C., and Parthuisot N. **2002**. Variations of bacterial-specific activity with cell size and nucleic acid content assessed by flow cytometry. *Aquatic Microbial Ecology* 28: 131-140.

COMMUNICATIONS (last 5 years)

- Jacquemot L., Monjol J., Bettarel Y., Latimier M., Baudoux A-C. Phage therapy for diseased corals? Potential of novel giant viruses as antimicrobial agents against coral pathogens. Society of Aquatic Microbial Ecology, Uppsala, 23 – 28 August **2015**
- Baudoux A-C., Lebretonchel H, Dehmer H, Bozec Y, Cariou T, Desdevisse Y, Derelle E, Edern R, Foulon E, Grimsley N, Jalabert F, Latimier M, Moreau H, Simon N. Interplay between prasinoviruses and *Micromonas* species in the Western English Channel. Society of Aquatic Microbial Ecology, Uppsala, 23 – 28 August **2015**
- Lelchat F., Cérantola S., Boisset-Helbert C., Baudoux A-C. Degradation of bacterially derived DOM by marine viruses. Society of Aquatic Microbial Ecology, Uppsala, 23 – 28 August **2015**
- Demory D., Simon N., Baudoux A-C., Six C., Ge P., Rigaut-Jalabert F., Marie D., Sciandra A., Bernard O. & Rabouille S. **2015** Does the thermal response of *Micromonas* species explain their niche partitioning? Society of Aquatic Microbial Ecology, Uppsala, 23 – 28 August **2015**
- Cheize M, Baudoux A-C., Bucciarelli E, Desboeufs K; Sancelme M, Delort A-M, Baker A, Sarthou G. Wet deposition is a potential source of Fe binding organic ligands into the surface seawater. Atlantic Meridional Meeting Plymouth, England, June 23 **2015**
- Demory D, Baudoux A-C., Simon N, Jalabert-Rigaud F, Rabouille S, Sciandra A, Bernard O. Temperature impact on the picophytoplankton *Micromonas spp.*: a theoretical and experimental approach (Poster). Journée des Jeunes Chercheurs. Roscoff, France, Dec 4 **2014**
- Baudoux A-C., Latimier M, Nguyen T T, Tran H Q, Paillard C, Nguyen Kim H, Bouvier T, Bettarel Y. Phage therapy for diseased corals? Characterization of novel candidates to treat coral bleaching. (Poster) Viruses of Microbes, Zurich, Switzerland, July 14-18 **2014**
- Simon N, Baudoux A-C., Lebretonchel H, Dehmer H, Bozec Y, Cariou T, Desdevisse Y, Derelle E, Edern R, Foulon E, Grimsley N, Jalabert F, Latimier M, Moreau H. Interplay between prasinoviruses and *Micromonas* cryptic species in the Western English Channel throughout the year 2009 (Poster) Viruses of Microbes, Zurich, Switzerland, July 14-18 **2014**
- Lelchat F, Cérantola S, Brandily C, Ojima T, Boisset C and Baudoux A-C. Phage-borne polysaccharidases for the depolymerization of bacterial exopolysaccharides: what about the sea? Viruses of Microbes, Zurich, Switzerland, July 14-18 **2014**
- Baudoux A-C. Integrative ecology of marine viruses: from molecules to ecosystems. Seminar Laboratoire d'Océanographie de Villefranche sur mer, Villefranche sur mer, June 18 **2014**
- Baudoux A-C. A glimpse into Virus World. Seminar Station Biologique de Roscoff, Roscoff France, May 19 **2014**
- Baudoux A-C., Latimier M, Paillard C, Nguyen Kim H, Bouvier T, Bettarel Y. Phage therapy: a revisited tool to treat bacteria mediated coral disease? (Poster) Ninth IOC/ WESTPAC International Scientific Symposium, Nha Trang, Vietnam, April 22-25 **2014**

- Bettarel Y, Nguyen KH, Bouvier T, Baudoux A-C, Bouvier C, Bouvy M, Debroas D, Desnues C, Doan NH, Ferrier-Pages C, Monteil S, Nguyen TT, Nguyen NL, Reynaud S, Rochelle-Newall E, Sime-Ngando T, Tran QH. The versatile nature of coral-associated viruses. (Poster) Ninth IOC/ WESTPAC International Scientific Symposium, Nha Trang, Vietnam, April 22-25 **2014**
- Simon N., Baudoux A-C, Lebredonchel H., Dehmer H., Bozec Y., Cariou T., Desdevisse Y., Derelle E., Edern R., Foulon E., Grimsley N., Jalabert F., Latimier M., Moreau H., and. Interplay between prasinoviruses and *Micromonas* cryptic species in the Western English Channel throughout the year 2009 (Oral) Conférence Jacques Monod “Des virus émergents aux virus pandémiques” Roscoff, France, April 3 – 6 **2014**
- Sarthou G, Cheize M, Baudoux A-C, Bucciarelli E. Le cycle biogéochimique du fer à l'interface Océan-Atmosphère : de l'eau des nuages à l'eau de mer. (Oral) Colloque National MicrobAERO 2013, La Bourboule, France, 7 – 9 Octobre **2013**
- Nguyen KH, Bettarel Y, Bouvier T, Baudoux A-C, Bouvier C, Bouvy M, Debroas D, Desnues C, Doan NH, Ferrier-Pages C, Monteil S, Nguyen TT, Nguyen NL, Reynaud S, Rochelle-Newall E, Sime-Ngando T, Tran QH. (Oral) A preliminary examination of coral-associated viral communities in two contrasting sites of the Van Phong Bay (Viet Nam). Society of Aquatic Microbial Ecology 13, Stresa, Italy, 8-13 September **2013**
- Bettarel Y, Baudoux A-C, Bonnet D, Bouvier C, Bouvier T, Bouvy M, Carré C, Debroas D, Desnues C, Doan HN, Ferrier-Pages C, Mari X, Monteil S, Nguyen KH, Nguyen NL, Nguyen TT, Reynaud S, Rochelle-Newall E, Sime-Ngando T, Torreton JP, Tran QH. Projet CORINE : eCOgenomique des virus du corail (airemaRINE protegee de hon mun, vietnam). (Poster) Colloque de restitution EC2CO. 21-23 Mai **2013**
- Lelchat F, Baudoux A-C, Brandily C, Schmitt S, Collic Jouault S, Ojima T, Boisset C. Outils enzymatiques pour la dépolymérisation d'exopolysaccharides bactériens d'origine marine. (Oral) Colloque Glucidoc, Landéda, France, 8 – 11 April **2013**
- Lelchat F, Baudoux A-C, Leroy A, Brandily C, Cozien J, Collic-Jouault S, Boisset C. Enzymatic tools for the depolymerization of bacterial exopolysaccharides: Investigation of glycosyl hydrolases and lyases. (Oral) International Carbohydrate Symposium, Madrid, Espagne, 22 -27 Juillet **2012**
- Guieu C, Ridame C, Pulido-Villena E, Wagener T, Bressac M, Dulac F, Desboeufs K, Blain S, Brunet C, Obernesterer I, Wuttig K, Ying Y, Baudoux A-C, Pondaven P, Biegala I, Leblond N, Doxaran D, Bourrin F, Stemman L. Atmospheric deposition on oligotrophic marine systems: new insights from mesocosms studies. (Oral) Earth Observation for Ocean-Atmosphere Interactions Science Conference. Frascati (Rome) Italie, 29 Novembre – 2 Décembre **2011**
- Baudoux A-C, Hendrix R, Lander GC, Bailly X, Podell S, Paillard C and Azam F. Genomic and functional analysis of *Vibrio* phage SIO-2 reveals novel insights into ecology and evolution of marine siphoviruses. (Poster) Aquatic Virus Workshop 6, Texel, Pays Bas, 30 Octobre – 3 Novembre **2011**
- Lelchat F, Brandily C, Cozien J, Leroy A, Baudoux A-C, Boisset C. Outils enzymatiques pour la dépolymérisation d'exopolysaccharides d'origine marine : recherche de glycoside hydrolases ou lyases. (Poster) Congrès Glucidoc, Sète, France, 3 - 6 Mai **2011**
- Cheize M, Sarthou G, Bucciarelli E, Croot P, Baker A, Baudoux A-C. Development of a method to determine the iron organic speciation in rainwater using Cathodic Stripping Voltammetry. ASLO Aquatic Sciences Meeting , San Juan Porto Rico, 12-18 Février **2011**
- Baudoux A-C. Implications écologiques des virus marins et futurs challenges en écologie virale (Oral – Invitation). Comité Scientifique Biogenouest, Roscoff, France, 4 Mai **2010**
- Baudoux A-C, Bucciarelli E, Sarthou G. Response of marine viruses to a dust fertilization (Oral). DUNE Workshop, Villefranche sur mer, France, 10-12 Février **2010**