

New trends in marine Biotechnology at CIIMAR

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CIIMAR IN NUMBERS

Members: 312
133 PhD
156 students (PhD, MSc, BSc)
23 administrative and technical staff
19 nationalities

Current research projects: 76

62 Portuguese Science and Technology Foundation and other national projects

14 international projects (e.g. FP7, Interreg Atlantic Area, Interreg POCTEP, Interreg SUDOE, Eurostar/Eureka)

Publications in 2012: 283

15 books and books chapters
258 papers in SCI Journals

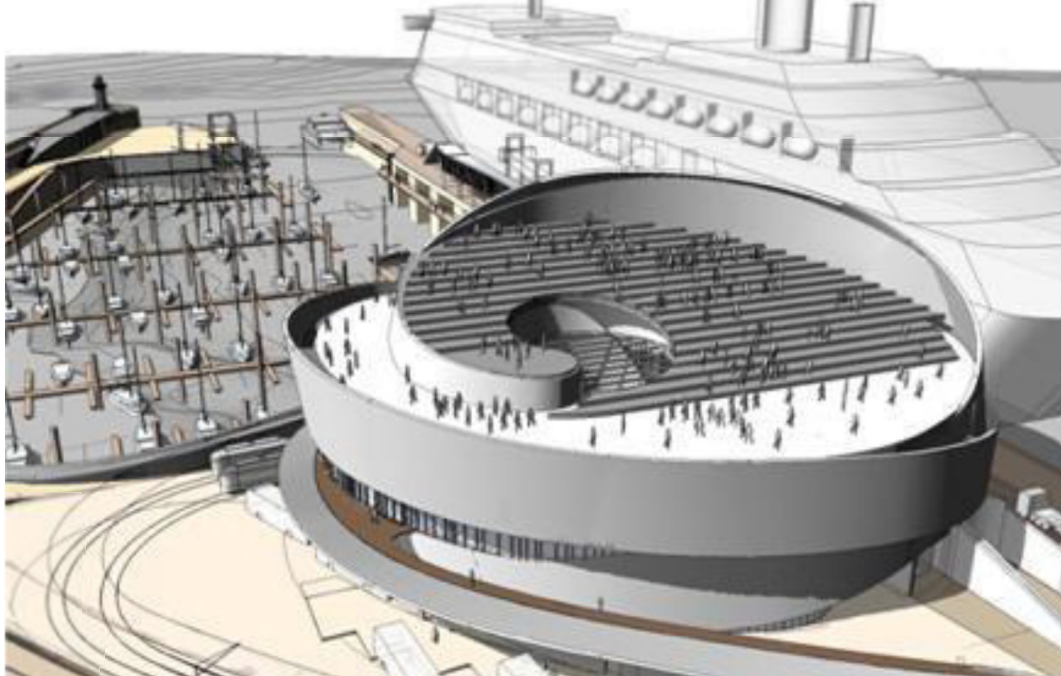
Research lines: 5

Research groups: 19

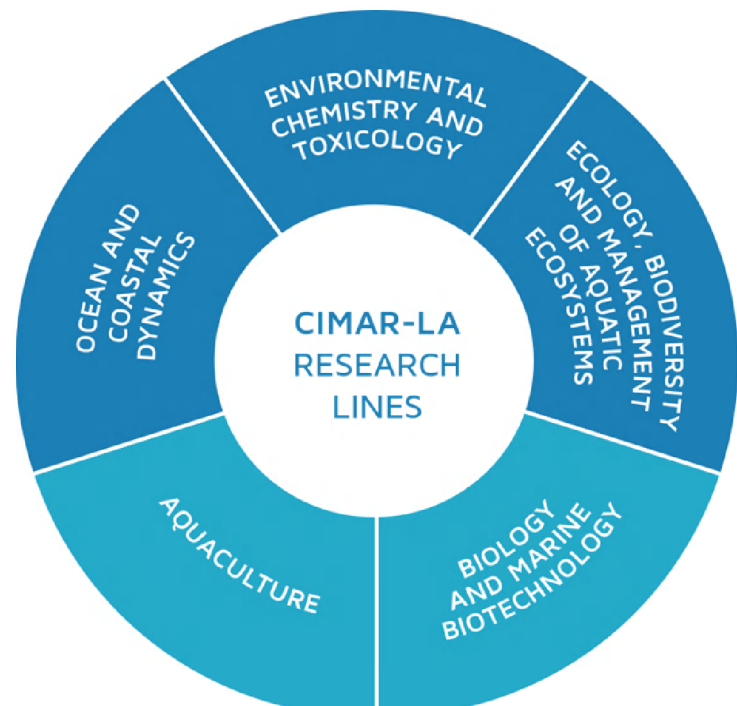
Aquatic bioterium: 1

Outreach facilities: 2 (CMIA Vila do Conde and CMIA Matosinhos)

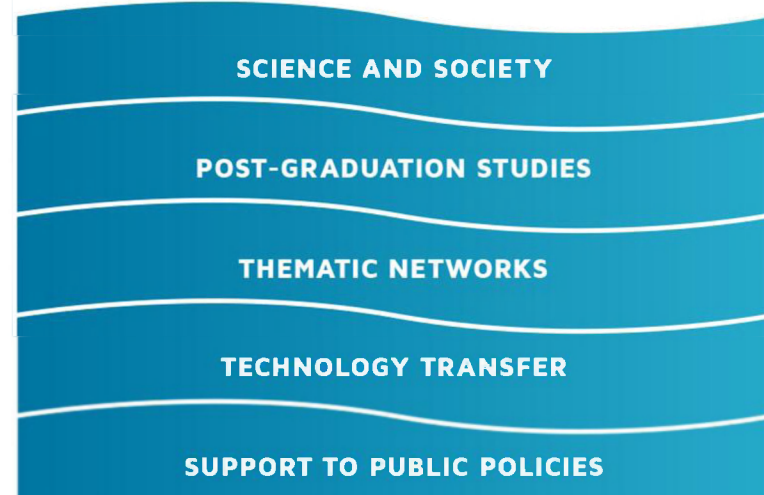
CIIMAR in 2015



RESEARCH LINES



TRANSVERSAL PROGRAMMES



Areas of interest

Marine Natural Substances

Pharmaceutical and Biomedical applications

Antiviral

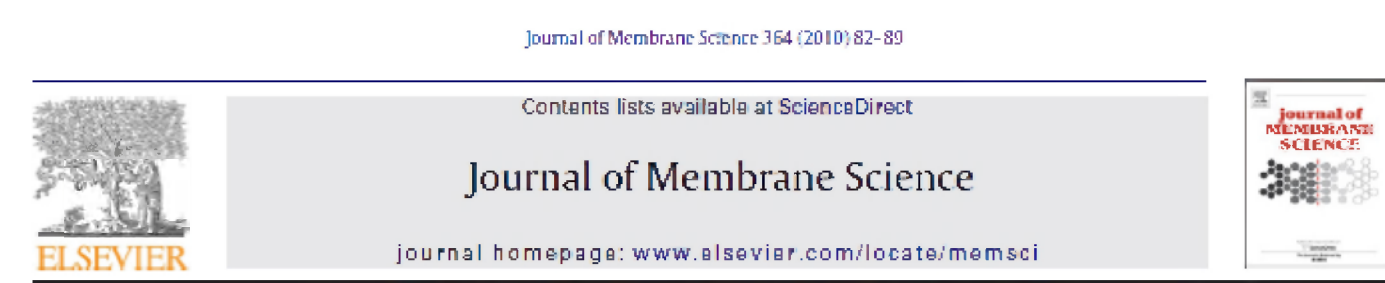


Cytotoxicity in L929 fibroblasts and inhibition of herpes simplex virus type 1 Kupka by estuarine cyanobacteria extracts

Viviana R. Lopes^{1,2}, Michaela Schmidtke¹, M. Helena Fernandes³, Rosário Martins^{1,4,5}, Vitor Vasconcelos^{1,2,6}

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Biomedicine



The effects of *Anodonta cygnea* biological fluids on biomineralization of chitosan membranes

Anabela Lopes¹, Manuel Lopes-Lima^{1,2,3}, Julius Bobos⁴, Jorge Ferreira⁴, Sílvia Gomes⁵, Rui Reis⁶, João Mano⁷, Jorge Machado^{1,2,3,4}



T12BioP: Topological Indices to BioPolymers. Its practical use to unravel cryptic bacteriocin-like domains

Gaëlle-Marie Aguiar-Chapin¹, Gisele Pérez-Machado¹, Reinaldo Molina Ruiz², Yumekis Pérez-Castillo³, Aluisia Morales-Holgüera⁴, Vitor Vasconcelos⁵, Agostinho Antunes⁶

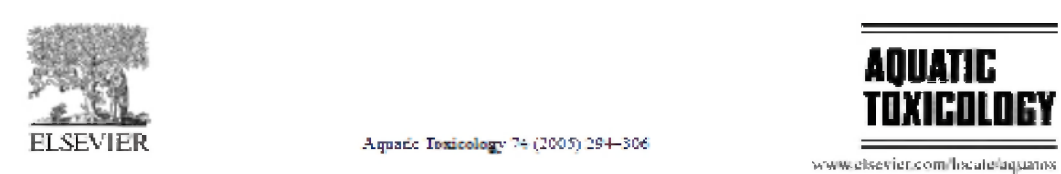
Aquaculture



Replacement of fishmeal by increasing levels of plant protein blends in diets for Senegalese sole (*Solea senegalensis*) juveniles

E.M. Cabral^{1,2}, M. Baccalar^{1,3}, S. Batista^{1,3}, M. Castro-Cunha⁴, R.O.A. Oztório⁵, L.M.P. Valente^{1,2,6}

Anticancerigenous



Neuro-apoptogenic and blood platelet targeting toxins in benthic marine cyanobacteria from the Portuguese coast

Frode Selheim^{1,2}, Lars Herfindal^{1,3}, Rosário Martins^{1,4}, Vitor Vasconcelos^{1,5,6}, Stein Ove Døskeland^{1,4}

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CHEMBIOCHEM

DOI: 10.1002/cbic.20100179

A Novel Cyanobacterial Nostocyclopeptide is a Potent Antitoxin against Microcystins

Jouni Jokela¹, Lars Herfindal^{1,2}, Matti Wahlsten¹, Perttu Permi¹, Frode Selheim^{1,3,4}, Vitor Vasconcelos^{1,5}, Stein Ove Døskeland^{1,6} and Kaarina Sivonen^{1,6}

1594 | InterScience[®] | © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim | ChemBioChem 2010, 11, 1594 – 1599

Mar. Drugs 2008, 6(1), 1–11

OPEN ACCESS

Marine Drugs
ISSN 1660-3397
www.mdpi.org/marinedrugs

Full Paper

Antimicrobial and Cytotoxic Assessment of Marine Cyanobacteria - *Synechocystis* and *Synechococcus*

Rosário F. Martins^{1,2,3}, Miguel E. Ramos¹, Lars Herfindal⁴, José A. Sousa^{1,2}, Kaja Skerven⁴ and Vitor M. Vasconcelos^{1,2,5}

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British Journal of Nutrition (2012), 108, 1202–1209
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doi:10.1017/S0007114511000556

The effect of dietary methionine and white tea on oxidative status of gilthead sea bream (*Sparus aurata*)

Amalia Pérez-Jiménez^{1,2,3}, Helena Peres¹, Vera Cruz Rubio² and Aires Oliva-Teles^{1,4}

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Environmental and industrial applications

Allelopathy

Cite this: *Nat. Prod. Rep.*, 2012, **29**, 372
www.rsc.org/npr

REVIEW

The chemical ecology of cyanobacteria

Pedro N. Leão¹, Niklas Engene², Agostinho Antunes¹, William H. Gerwick^{3,4} and Vitor Vasconcelos^{1,5}

Received 1st October 2011
DOI: 10.1039/c1np90075g

Covering: up to September 2011

This review covers the literature on the chemically mediated ecology of cyanobacteria, including ultraviolet radiation protection, feeding-defence, allelopathy, resource competition, and signalling. To highlight the chemical and biological diversity of this group of organisms, evolutionary and chemotaxonomical studies are presented. Several technologically relevant aspects of cyanobacterial chemical ecology are also discussed.

Microb. Ecol. (2012) 63:35–95
DOI: 10.1007/s00248-011-9959-z

ENVIRONMENTAL MICROBIOLOGY

Microbial Community Changes Elicited by Exposure to Cyanobacterial Allelochemicals

Pedro N. Leão¹, Vitor Ramos¹, Micaela Vale¹, João P. Machado¹, Vitor M. Vasconcelos¹

Eur. J. Phycol., (2009), 44(3): 347–355

Taylor & Francis

Allelopathic activity of cyanobacteria on green microalgae at low cell densities

PEDRO N. LEÃO¹, M. TERESA S.D. VASCONCELOS^{1,2} and VÍTOR M. VASCONCELOS^{1,2}

Synergistic allelochemicals from a freshwater cyanobacterium

Pedro N. Leão^{1,2}, Alban K. Pereira¹, Wei-Ting Liao, Julio Ng¹, Pavol A. Pevzner¹, Pieter C. Dorrestein^{1,3,4}, Gabriele M. König¹, Vitor M. Vasconcelos^{1,2}, and William H. Gerwick^{1,2,5}

www.pnas.org/cgi/doi/10.1073/pnas.0814301107

PNAS | June 22, 2009 | vol. 107 | no. 25 | 11183–11188

Biodegradation (2011) 22:728–739
DOI: 10.1007/s10531-010-9446-9

ORIGINAL PAPER

Bioremediation

Hydrocarbon degradation potential of salt marsh plant–microorganisms associations

Hugo Ribeiro¹, Ana P. Mucha¹, C. Marisa R. Almeida¹, Adriano A. Bordalo¹



Toxicity assessment of crude and partially purified extracts of marine *Synechocystis* and *Synechococcus* cyanobacterial strains in marine invertebrates^{1,2}

Rosário Martins^{1,2,3,4}, Nuria Fernandez², Ricardo Beiras¹, Vitor Vasconcelos^{1,5}

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⁴Laboratório de Ecotoxicologia e Biotoxicidade Animal, Faculdade de Ciências, Universidade do Vigo, E-36200 Vigo, Galicia, Spain

Mar. Drugs 2010, 8, 59–79; doi:10.3390/md8010059

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Marine Drugs

ISSN 1660-3397

www.mdpi.com/journal/marinedrugs

Review

Effects of Marine Toxins on the Reproduction and Early Stages Development of Aquatic Organisms

Vitor Vasconcelos^{1,2,3}, Joana Azevedo², Marisa Silva^{1,2} and Vitor Ramos²

Mar. Drugs 2010, 8, 471–482; doi:10.3390/md8030471

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Marine Drugs

ISSN 1660-3397

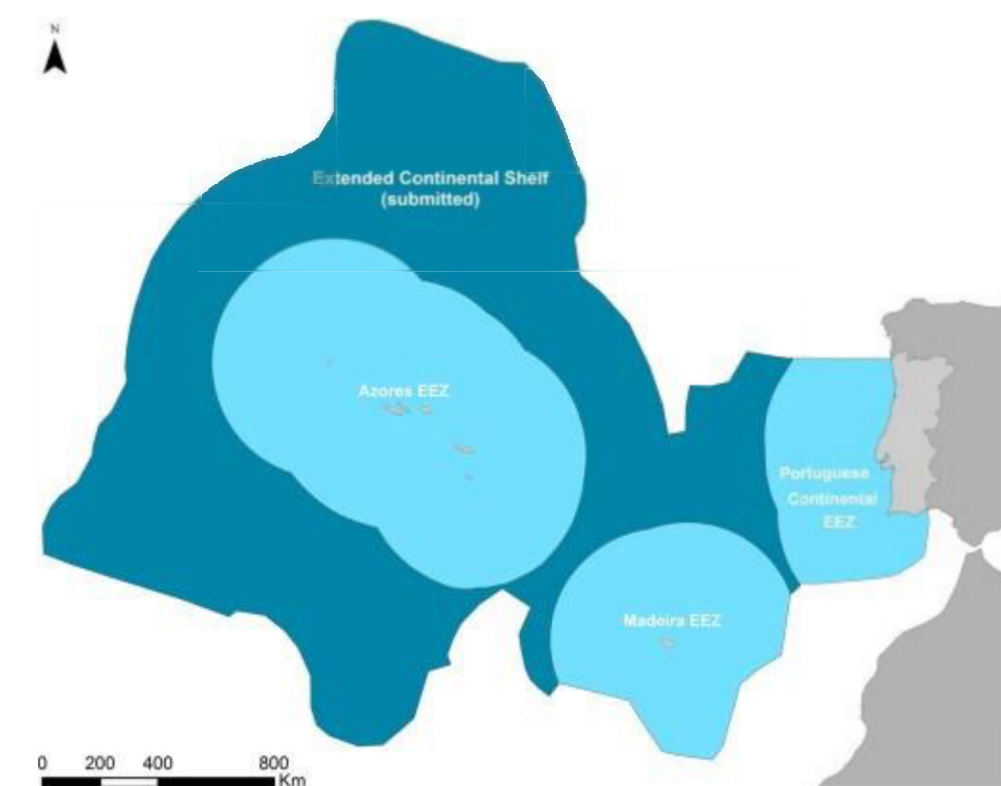
www.mdpi.com/journal/marinedrugs

Article

Primary Screening of the Bioactivity of Brackishwater Cyanobacteria: Toxicity of Crude Extracts to *Artemia salina* Larvae and *Paracentrotus lividus* Embryos

Viviana R. Lopes^{1,2,3,4}, Nuria Fernandez², Rosário F. Martins^{1,4,5} and Vitor Vasconcelos^{1,2}

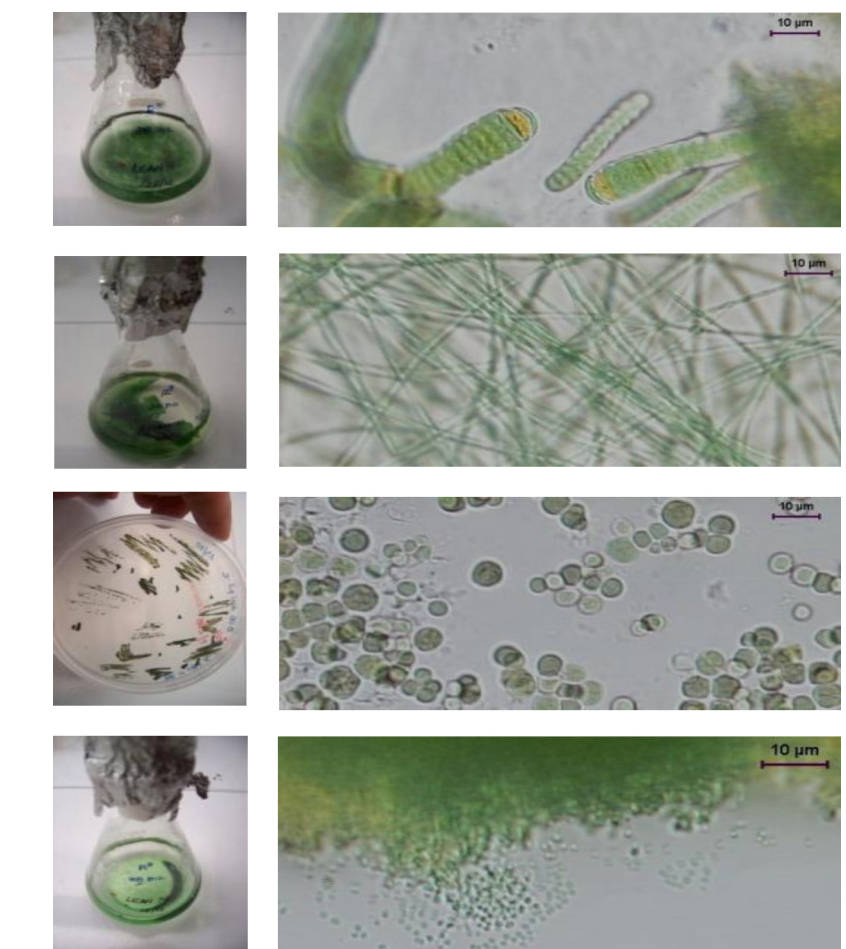
Opportunities



Actual and proposed extension of the Portuguese continental platform)



Access to samples of continental Portugal, Azores and Madeira Islands



Culture collection of cyanobacteria with more than 350 strains



Culture facilities for cyanobacteria, algae and invertebrates

www.ciimar.up.pt

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