

Curriculum Vitae

Name & Surname: Dr. BRESSY Christine

Nationality: French

Title and position: Professor and Reader at the University of Toulon (France), Head of MAPIEM laboratory

Research Group

Laboratoire MATériaux Polymères-Interfaces-Environnement Marin (EA 4323 MAPIEM), Université de Toulon, France, christine.bressy@univ-tln.fr. <https://mapiem.univ-tln.fr/BRESSY-Christine-242.html>

Career

Engineer diploma (Honours), Polymer Sciences, National College of Chemical Engineering, University of Montpellier, France, 1993.

M.Sc. (Honours), Polymer Sciences, University of Montpellier, France, 1993.

Ph.D. (Honours), Polymer Sciences, University of Montpellier, France, 1996.

Reader in polymer synthesis and physicochemical characterisation, University of Toulon, 1998-to date.

Professor in polymer synthesis and physicochemical characterisation, University of Toulon, 2022 to date.

Teaching activities (270 hours/year)

Postgraduate courses in chemistry, physicochemistry of polymers and materials, surface characterization, thermal and mechanical properties of organic materials, adhesives and coatings, analytical tools, antifouling coatings. Case study analyses, one-to-one tutoring projects.

Collective and responsibilities/administrative functions

From 2023- Head of MAPIEM laboratory – Toulon University

From 2023- Member of Toulon University research council and the academic council

From 2022- Member of the Scientific Advisory Board of ARC Training Centre for Biofilm Research and Innovation - Flinders University - <https://biofilminnovation.org/>

From 2019- Associate member of Biofilm Research & Innovation Consortium (BRIC) – Flinders Institute for NanoScale Science and Technology- Flinders University

2018-2022 Member of the SeaTech Engineer School council

From 2017- Member of the executive team of MAPIEM laboratory and leader of the "antifouling surfaces" research axis of the MAPIEM laboratory

2015-2019 Member of Toulon University research council and the academic council

2012- Member of the organizing committee of "Biofouling & Antifouling" conference

June 2016 Chair of the "18th International Congress on Marine Corrosion and Fouling" – (Toulon, France- 370 attendees - 36 countries - 110 oral talks - 20 invited speakers- 100 posters. <http://icmcf2016.univ-tln.fr/>)

2012- 2017 Member of the Comité International Permanent pour la Recherche sur la Préservation des Matériaux en Milieu Marin (COIPM)

2006-2012 Member of the ISO/TC35/SC9/WG27 group "Paints and varnishes/General test methods for paints and varnishes/Determination of leaching rates from antifouling paints"

2009-2011 Seat of the board of directors of the University

2007-2011 Representative of the University at the PACA Marine Cluster steering committee

2001-2005 Member of the University life and studies council

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Research activities

C. Bressy started to work on polymer coatings in 1993 (Laboratory of Applied Chemistry, Prof B. Boutevin as supervisor) during her PhD thesis (1993-1996). She synthesized phosphonated monomers and copolymers for anticorrosive coatings. C. Bressy developed methods to introduce phosphonic acid groups onto fluoropolymers through grafting reaction or polymer blends. Following her PhD, C. Bressy was appointed in the MAPIEM laboratory (University of Toulon, France) to work on polymer coatings and more specifically on antifouling coatings. Her research interests have covered design, synthesis and characterization of polymers. As associate professor/professor position, she has supervised 13 PhD thesis based on the development of polymers with controlled architectures and morphologies, hydrolyzable (meth)acrylic polymers and PDMS networks for marine antifouling purposes. She has a keen interest in future antifouling/fouling release strategies and demonstrating their mechanisms of action using surface and bulk analysis techniques, bioassays and field tests. Amongst other activities, Christine Bressy's responsibilities encompass the leading of the "antifouling surfaces" research axis of the MAPIEM laboratory and the participation in the scientific board of projects on the ship surface protection by antifouling paints. She is now leading the MAPIEM laboratory. She has over 25 years of project/program experiences in the development of antifouling coatings. At present she is focused on the development of novel antifouling strategies based on the development of SPC/FRC hybrid coatings and biomimetic, electroactive strategies. She is/was supervised several projects based on the ship surface protection by antifouling paints. Christine Bressy is also involved in testing and expertise proposals to industrial customers in the antifouling paint area.

Supervision of students

Co-supervised 13 PhD students + 5 international PhD students

Supervised 7 postdoctoral researchers, Supervised 26 master students, 8 engineers and 7 technicians.

External examiner for 35 PhD thesis (6 European PhD thesis vivas)

Selection of grants

Grants and contracts mainly focused on the ship surface protection by antifouling paints.

- 1- ECO-SmartAF "Smart polymers for sustainable marine antifouling coatings" ANR2023, 2024-2028. 246 k€
- 2- PIEZOVID "Antifouling piezoelectric vibratory system"- ANR ASTRID 2022, 2023-2026. 84 k€
- 3- ARC grant 2021-2024 (Discovery Project Grant # DP210101243, Chief Investigator: Professor Mats Andersson) "Conducting coatings for control and eradication of unwanted marine biofilms". 6.2 k€
- 4- PAINTS "New biocide-free marine antifouling coatings: a transition to an eco-sailing?" FRQ-ANR 2019, 2019-2022. 194 k€
- 5- ABIOP+ "Accounting for BIOfouling through established Protocols of quantification +"ANR EMR-ITE 2018, 2019-2022. 136k€
- 6- RESSAC Enzymatic Coatings Inhibiting Fouling and Corrosion (ANR ASTRID, 2018-2020, 298.7 k€)
- 7- DRACONS Drag Reducing and Antifouling Coatings for Navy Ships (French Defence Agency, 2013-2016, 850 k€)
- 8- AF-ElectroCoatings (ANR ASTRID, 2013-2016, 147.4 k€)
- 9- BIOPAINTROP development of paints with molecules extracted from tropical microalgae (ANR CD2I, 2012-2017, 276 k€)
- 10- SEAPAINTE Self-Erodible Antifouling Paint (RAPID, French Defence Agency DGA project, 2012-2014, 234 k€)
- 11- ACWS Antifouling Coatings for War Ships (European Defence Agency, 2008-2011, 500 k€)
- 12- ECOPAINT PACA (2nd FUI, 2007-2011, 1.05 M€)

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Publications

71 referred journals + 6 patents + 2 book chapters, 114 oral communications, 64 posters

Selection of publications

- 1- Long-lasting biofouling formation on transparent fouling-release coatings for the construction of efficient closed photobioreactors, Y. Soriano-Jerez, L. García-Abad, M.d.C. Cerón-García, J. J. Gallardo-Rodríguez, C. Bressy, F. García-Camacho, E. Molina-Grima, **Biofouling** (2023); 39:483-501.
- 2- Influence of Sharklet-inspired micropatterned polymers on spatio-temporal variations of marine biofouling, E. Védie, R. Barry-Martinet, V. Senez, M. Berglin, P. Stenlund, H. Brisset, C. Bressy, J.-F. Briand, **Macromolecular Bioscience** (2022);22, 2200304.
- 3- Hydrolyzable additive-based silicone elastomers: a new approach for antifouling coatings, L. Gevaux, M. Lejars, A. Margailan, J-F. Briand, R. Bunet, C. Bressy, **Polymers** (2019); 11(2), 305.
- 4- Bacterial antiadhesion activity based on electrochemical properties of polymethacrylates bearing ferrocenyl pendant groups, R.W. Nguema Edzang, Duong, J-F. Briand, M. Lejars, J-M. Raimundo, C. Bressy, H. Brisset, **Biofouling** (2018); 34(9), 1055–1063.
- 5- Spatio-temporal variations of marine biofilm communities colonizing artificial substrata including antifouling coatings in contrasted French coastal environments. J.F. Briand, G. Gregory, K. Réhel, C. Garnier, A. Barani, C. Le Poupon, A. Bouchez, D. Debroas, C. Bressy **Microb. Ecol.** (2017); 74, 585–598.
- 6- Polysiloxane-based block copolymers with marine bacterial anti-adhesion properties. T.H. Duong, J-F. Briand, A. Margailan, C. Bressy **Appl. Mater. Interfaces** (2015); 7 (28): 15578–15586.
- 7- Fouling release coatings: a non-toxic alternative to biocidal antifouling coatings. M. Lejars, A. Margailan, C. Bressy **Chem. Rev.** (2012); 112 (8): 4347–4390.