

MARCO GERDOL

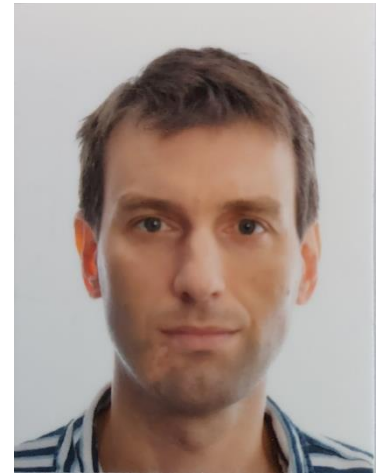
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Web Of Science: <https://www.webofscience.com/wos/author/record/D-2115-2013>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=36631987100>

Google Scholar: <https://scholar.google.com/citations?user=BeAq4d4AAAAJ>

Marco Gerdol is an associate professor in the Department of Life Sciences at the University of Trieste. His main research interests concern the study of molecular mechanisms underlying the adaptation of marine organisms to their complex living environment, with particular reference to the evolution of the immune system.

His main model of study is bivalve mollusks (particularly the Mediterranean mussel *Mytilus galloprovincialis*), which he studies using genomic and transcriptomic approaches. After investigating the molecular diversity of various receptors and effectors of the innate immune system of these organisms (most notably antimicrobial peptides and expanded lectin-like protein families), and being involved in the coelacanth genome sequencing project, following his recruitment as a researcher he began to develop an independent line of research focused on the study of molluscan pangenomes.

This approach led to the description, for the first time in the animal kingdom, of an open pangenome in *M. galloprovincialis*, characterized by a remarkable abundance of dispensable genes likely involved in local adaptation, which could explain the remarkable resilience of these organisms to biotic and abiotic stresses.

In parallel to this line of research, using the same comparative genomics approaches, he studies adaptations to extreme environments of various aquatic organisms, including Antarctic fish, mollusks and crustaceans, as well as cave-dwelling bivalves.

He actively collaborates on various research topics with several SNZ researchers, offering his genomic and molecular biologist skills to complement studies conducted at the station.

Five selected publications

1. Amemiya CT, Alfoldi J, Lee AP, Fan S, Philippe H, MacCallum I, Braasch I, Manousaki T, Schneider I, Rohner N, Organ C, Chalopin D, Smith JJ, Robinson M, Dorrington RA, Gerdol M, Aken B, Biscotti MA, Barucca M, Baurain D, Berlin AM, Blatch GL, Buonocore F, Burmester T, Campbell MS, Canapa A, Cannon JP, Christoffels A, De Moro G, Edkins AL, Fan L, Fausto AM, Feiner N, Forconi M, Gamielidien J, Gnerre S, Gnirke A, Goldstone JV, Haerty W, Hahn ME, Hesse U, Hoffmann S, Johnson J, Karchner SI, Kuraku S, Lara M, Levin JZ, Litman GW, Mauceli E, Miyake T, Mueller MG, Nelson DR, Nitsche A, Olmo E, Ota T, Pallavicini A, Panji S, Picone B, Ponting CP, Prohaska SJ, Przybylski D, Saha NR, Ravi V, Ribeiro FJ, Sauka-Spengler T, Scapigliati G, Searle SMJ, Sharpe T, Simakov O, Stadler PF, Stegeman JJ, Sumiyama K, Tabbaa D, Tafer H, Turner-Maier J, van Heusden P, White S, Williams L, Yandell M, Brinkmann H, Volff J.-N., Tabin CJ, Shubin N, Schartl M, Jaffe DB, Postlethwait JH, Venkatesh B, Di Palma F, Lander ES, Meyer A, Lindblad-Toh K: **The African coelacanth genome provides insights into tetrapod evolution.** *Nature* 2013, **496**:311-316. <https://doi.org/10.1038/nature12027>

2. Gerdol M, Venier P: **An updated molecular basis for mussel immunity.** *Fish and Shellfish Immunology* 2015, **46(1)**:17-38. <https://doi.org/10.1016/j.fsi.2015.02.013>
3. Leoni G, De Poli A, Mardirossian M, Gambato S, Florian F, Venier P, Wilson DN, Tossi A, Pallavicini A, Gerdol M[§]: **Myticalins: a Novel Multigenic Family of Linear, Cationic Antimicrobial Peptides from Marine Mussels (*Mytilus* spp.).** *Marine Drugs* 2017, **15**:261. <https://doi.org/10.3390/md15080261>
4. Gerdol M, Gomez-Chiarri M, Castillo MG, Figueras A, Fiorito G, Moreira R, Novoa B, Pallavicini A, Ponte G, Roumbedakis K, Venier P, Vasta GR: **Immunity in Molluscs: Recognition and Effector Mechanisms, with a Focus on Bivalvia.** In: *Advances in Comparative Immunology* 2018. Edited by Cooper EL. Springer. ISBN: 978-3-319-76767-3. pp 225-341. <https://doi.org/10.1007/978-3-319-76768-0>
5. Gerdol M, Moreira R, Cruz F, Gomez-Garrido J Vlasova A, Rosani U, Venier P, Naranjo-Ortiz MA, Murgarella M, Greco S, Balseiro P, Corvelo A, Frias L, Gut M, Gabaldon T, Pallavicini A, Canchaya C, Novoa B, Alioto TS, Posada D, Figueras A: **Massive gene presence-absence variation shapes an open pan-genome in the Mediterranean mussel.** *Genome Biology* 2020. **21**:275. <https://doi.org/10.1186/s13059-020-02180-3>