

Curriculum Vitae

Frédéric Verret

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Education

- PhD in Molecular Microbiology and Biotechnology (2005)

Faculty of Luminy/Department of Sciences, University of Aix-Marseille II, France.

Thesis title: Molecular and Physiological Characterization of AtHMA4, a Zn/Cd/Pb P-type ATPase of *A. thaliana*.

- M.Sc. in Cell Biology and Physiology (2000)

Faculty of Luminy/Department of Sciences, University of Aix-Marseille II, France.

- BsC in Biochemistry (1999)

Faculty of Sciences St Charles, University of Provence Aix-Marseille I, France.

Current Position

Since September 2022: Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH), Greece. Postdoctoral Researcher.

Previous Positions

- 2018-2022: Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece. Research Fellow.
- 2012-2018: Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH), Greece. Postdoctoral Researcher.
- 2011-2012: Centro de Ciências do Mar do Algarve, University of Algarve, Portugal. Postdoctoral Researcher.
- 2008-2010: Department of Biological Sciences, University of Essex, United Kingdom. Postdoctoral Researcher.
- 2005-2008: Marine Biological Association, United Kingdom. Postdoctoral Researcher.

Fellowships/Prizes/Awards

- Hellenic Foundation for Research and Innovation (ELIDEK), First call for the “Promotion of Postdoctoral Researchers”. “RNA Silencing in Diatoms” (ELIDEK-GSRT 483; 2018-2021; 200 000 EUR).
- European Social Fund/NSRF 2007-2013, “Support for Postdoctoral Researchers”. “Bioenergetic cross-talk between RNA silencing and photosynthesis in plants” (15308/2.12.10; 2012-2015; 150 000 EUR).
- “Inventors Award” (2005). Patent “Genetically modified plants and their applications in phytoremediation”. French Alternative Energies and Atomic Energy Commission (CEA), France.

Publications

(Corresponding author*, Co-first author[†])

Di Costanzo F, Di Marsico M, Orefice I, Kristoffersen IJP, Kasapidis P, Chaumier T, Ambrosino L, Miralto M, Aiese Cigliano R, **Verret F**, Tirichine L, Trindade M, Van Zyl L, Di Dato V, Romano G (2025). High-quality genome assembly and annotation of *Thalassiosira rotula* (synonym of *Thalassiosira gravida*). *Sci. Data* 12, 310. doi.org/10.1038/s41597-025-04634-4

Kallemi P[†], **Verret F**[†], Andronis C, Ioannidis N, Glampedakis N, Kotzabasis K, Kalantidis K* (2024). Stress-related transcriptomic changes associated with GFP transgene expression and active transgene silencing in plants. *Scientific Reports*. 14: 13314. doi.org/10.1038/s41598-024-63527-5

Grypioti E, Richard H, Kryovrysanaki N, Jaubert J, Falciatore A, **Verret F***, Kalantidis K* (2023). Dicer-dependent heterochromatic small RNAs in the model diatom species *Phaeodactylum tricornutum*. *New Phytologist*. 241: 811-826. doi.org/10.1111/nph.19429

Amaral R, Duci D, Cotta FC, Bacellar FL, Oliveira S, **Verret F**, Asadi K, Vandamme LKJ, Reis NM, Bryant LD, Tosh D, Mouget J-L, Perkins R, Rocha PRF* (2023). Ion-driven communication and acclimation strategies in microalgae. *Chemical Engineering Journal*. 473: 144985. doi.org/10.1016/j.cej.2023.144985

Gabed N, **Verret F***, Peticca A, Kryvoruchko I, Gastineau R, Bosson O, Séveno J, Davidovich O, Davidovich N, Witkowski A, Kristoffersen JB, Benali A, Ioannou E, Koutsaviti A, Roussis V, Gâteau H, Phimmaha S, Leignel V, Badawi M, Khiar F, Francezon N, Fodil M, Pasetto P, Mouget J-L. (2022). What Was Old Is New Again: The Pennate Diatom *Haslea ostrearia* (Gaillon) Simonsen in the Multi-Omic Age. *Marine Drugs*. 20(4): 234. doi.org/10.3390/md20040234

Gastineau R*, Lemieux C, Turmel M, Grypioti E, **Verret F**, Makris A, Argiriou A, Kafetzopoulos D, Stratidaki I, Carrier G, Jacquette B and Mouget J-L. (2020) Two new bacilladnaviruses associated with the diatom *Haslea ostrearia*. *Eur. J. Phycol.* 1-10. doi.org/10.1080/09670262.2020.1748723

Helliwell KE, Chrachri A, Koester JA, Wharam S, **Verret F**, Taylor AR, Wheeler G* and Brownlee C*. (2019) Alternative Mechanisms for Fast Na⁺/Ca²⁺ Signaling in Eukaryotes via a Novel Class of Single-Domain Voltage-Gated Channels. *Curr. Biol.* 29 (9): 1503-1511.e6. doi.org/10.1016/j.cub.2019.03.041

Athanasakoglou A, Grypioti E, Michailidou S, Ignea C, Makris AM, Kalantidis K, Masse G, Argiriou A, **Verret F*** and Kampranis SC*. (2018) Isoprenoid biosynthesis in the diatom *Haslea ostrearia*. *New Phytol.* 222(1): 230-243. doi.org/10.1111/nph.15586

Mordecai GJ, **Verret F**, Highfield A and Schroeder D*. (2017) Schrödinger's Cheschire Cat: Are haploid *Emiliania huxleyi* cells resistant to viral infection or not? *Viruses*. 9(3): 51. doi.org/10.3390/v9030051

Mermigka G, **Verret F** and Kalantidis K*. (2016) RNA silencing movement in plants. *J. Integr. Plant Biol.* 58(4): 328-342. doi.org/10.1111/jipb.12423

Pearson G, Lago-Leston A, Cánovas F, Cox C, **Verret F**, Lasternas S, Duarte C, Agusti S and Serrão E*. (2015) Metatranscriptomes reveal functional variation in diatom communities from the Antarctic Peninsula. *ISME J.* 9(10): 2275-2279. doi.org/10.1038/ismej.2015.40

Swevers L*, Kolliopoulou A, Li Z, Daskalaki M, **Verret F**, Kalantidis K, Smagghe G and Sun J*. (2014) Transfection of BmCPV genomic dsRNA in silkworm-derived Bm5 cells: Stability, and interaction with the core RNAi machinery. *J. Insect Physiol.* 64(1): 21-29. doi.org/10.1016/j.jinsphys.2014.03.002

Read BA*, Kegel J, Klute MJ, Kuo A, Lefebvre SC, Maumus F, Mayer C, Miller J, Monier A, Salamov A, Aguilar M, Claverie J-M, Frickenhaus S, Gonzalez K, Herman EK, Lin Y-C, Napier J, Ogata H, Sarno AF, Shmutz J, Schroeder D,

Vargas C, **Verret F**, von Dassow P, Valentin K, Van de Peer Y, Wheeler G, *Emiliana huxleyi* Annotation Consortium, Dacks JB, Delwiche CF, Dyhrman ST, Glöckner G, John U, Richards T, Worden AZ, Young J, Zhang X and Grigoriev IV. (2013) *Emiliana's* pan genome drives the phytoplankton's global distribution. *Nature* 499 (7457): 209-213. doi.org/10.1038/nature12221

Verret F, Wheeler G, Taylor A, Farnham G and Brownlee C*. (2010) Calcium channels in photosynthetic eukaryotes: Implications for evolution of calcium-based signalling. *New Phytol.* 187(1): 23-43. doi.org/10.1111/j.1469-8137.2010.03271.x

Bowler C*, Allen AE, Badger JH, Grimwood J, Jabbari K, Kuo A, Maheswari U, Martens C, Maumus F, Otiara RP, Rayko E, Salamov A, Vandepoele K, Beszteri B, Gruber A, Heijde M, Katinka M, Mock T, Valentin K, **Verret F**, Berges JA, Brownlee C, Cadoret JP, Chiovitti A, Choi CJ, Coesel S, De Martino A, Detter JC, Durkin C, Falciatore A, Fournet J, Haruta M, Huysman MJ, Jenkins BD, Jiroutova K, Jorgensen RE, Joubert Y, Kaplan A, Kröger N, Kroth PG, La Roche J, Lindquist E, Lommer M, Martin-Jézéquel V, Lopez PJ, Lucas S, Mangogna M, McGinnis K, Medlin LK, Montsant A, Oudot-Le Secq MP, Napoli C, Obornik M, Parker MS, Petit JL, Porcel BM, Poulsen N, Robison M, Rychlewski L, Rynearson TA, Schmutz J, Shapiro H, Siat M, Stanley M, Sussman MR, Taylor AR, Vardi A, von Dassow P, Vyverman W, Willis A, Wyrwicz LS, Rokhsar DS, Weissenbach J, Armbrust EV, Green BR, Van de Peer Y, Grigoriev IV. (2008) The *Phaeodactylum* genome reveals the evolutionary history of diatom genomes. *Nature* 456 (7219): 239-244. doi.org/10.1038/nature07410

Verret F, Gravot A, Auroy P, Preveral S, Forestier C, Vavasasseur A and Richaud P*. (2005) Heavy metal transport by AtHMA4 involves the N-ter degenerated HMA domain and the C-ter His11 stretch. *FEBS Lett.* 579(6): 1515-1522. doi.org/10.1016/j.febslet.2005.01.065

Verret F, Gravot A, Auroy P, Leonhardt N, David P, Nussaume L, Vavasasseur A and Richaud P*. (2004) Overexpression of AtHMA4 enhances root-to-shoot translocation of zinc and cadmium and plant metal tolerance. *FEBS Lett.* 576(3): 306-312. doi.org/10.1016/j.febslet.2004.09.023

Gravot A, Lieutaud A, **Verret F**, Auroy P, Vavasasseur A and Richaud P*. (2004) AtHMA3, a plant P1B-ATPase, functions as a Cd/Pb transporter in yeast. *FEBS Lett.* 561(1-3): 22-28. doi.org/10.1016/S0014-5793(04)00072-9

Book Chapters

Mermigka G, **Verret F** and Kalantidis K. RNA Silencing Movement in Plants. In *Revue in Cell Biology and Molecular Medicine*, 2015, Wiley-VCH Verlag GmbH & Co. KGaA, Vol 1 No 3, pp 96-129. doi.org/10.1002/3527600906.mcb.201500016

Catty P, **Verret F**, Lecomte-Pradines C and Forestier C. Transport membranaire des métaux et métalloïdes in *Toxicologie Nucléaire Environnementale et Humaine*, 2009, Lavoisier pp 63-82. ISBN: 978-2-7430-1174-1.

Patent

Genetically modified plants and their applications in phytoremediation (2005)

Richaud P, **Verret F**, Gravot, A, Auroy P and Vavasasseur A.

International Publication Number WO 2005/090583 A1.

Editorial work

Reviewer in *Nature Communications*, *Scientific Data*, *BMC Plant Biology*, *New Phytologist*.

Projects

- 2024 – On Site Biological Sensing for Aquatic Pollutants and Biohazards (AquaBioSens)**
Project member
Coordinator: Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH), Crete, Greece.
HORIZON EUROPE Framework Programme, HORIZON-CL6-2023-ZEROPOLLUTION-01, Grant agreement ID: 101135432.
- 2022 – 2024 Technologies for Ocean Sensing (TechOceanS)**
Participant
Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH), Crete, Greece.
Coordinator: National Oceanography Centre, Southampton, UK
H2020-EU.3.2. - SOCIETAL CHALLENGES - Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy, Grant agreement ID: 101000858.
- 2021 – 2024 Exploring diatom resting stages in Calabrian marine waters: biological diversity, chemical cues and biotechnological potential (DIRCA)**
Project member – PI for HCMR
Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece.
Coordinator: Stazione Zoologica Anton Dohrn, Italia.
Research center and advanced marine infrastructures in Calabria (CRIMAC), Calabria Region.
- 2020 – 100 Diatom Genomes Project**
Project member – PI for HCMR
Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece.
Coordinator: University of East Anglia, United Kingdom
Community Science Program, US Department of Energy Joint Genome Institute (JGI), Proposal ID:506537, Award DOI: 10.46936/10.25585/60001393; In kind.
- 2018 – 2022 RNA Silencing in Diatoms (RADIO)**
Project Member – PI for HCMR
Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece.
General Secretariat for Research and Innovation, Hellenic Foundation for Research and Innovation, Project ID: 483; €200,000 for HCMR
- 2017 – 2022 The Genus *Haslea*, New marine resources for blue Biotechnology and Aquaculture (GHaNA)**
Project Member – PI for HCMR
Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece.
Coordinator: University du Maine, France
H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions, Grant agreement ID: 734708; €1,602,000 in total, €93,000 for HCMR.
- 2018 – 2021 Cluster for the Sustainable Exploitation of Marine Natural Resources (CMBR)**
Participant
Coordinator: Institute of Marine Biology, Biotechnology and Aquaculture (IMBBC), Hellenic Centre for Marine Research (HCMR), Crete, Greece.
NSRF-ESF 2014-2020, Operational Program "Competitiveness, Entrepreneurship and Innovation", Action "Reinforcement of the Research and Innovation Infrastructure", Project MIS 5002670.

- 2015 Development and employment of Minos-based genetic and functional genomic technologies in model organisms (MINOS)**
Participant
Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH), and University of Crete, Greece.
Coordinator: BSRC 'Alexander Fleming', Greece
NRSF-ESF 2007-2013, Operational Program “Education and Lifelong Learning”, Research Funding Program: THALES- Investing in Knowledge Society through the European Social Fund, Project MIS 376898
- 2012 – 2015 Bioenergetic cross-talk between RNA silencing and photosynthesis in plants**
Project member
Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH) and University of Crete, Greece.
NSRF-ESF 2007-2013, Operational Program “Education & Lifelong Learning”, Action “Supporting Postdoctoral Researchers”, Project 15308/2.12.10; €150,000 for IMBB.
- 2011 – 2015 Biodiversity and Valorization of Blue Diatoms (BIOVADIA)**
Project member
Institute of Molecular Biology and Biotechnology (IMBB), Foundation for Research and Technology – Hellas (FORTH) and University of Crete, Greece.
Coordinator: University du Maine, France
FP7-PEOPLE-2010-IRSES, Grant agreement ID: 269294
- 2011 – 2012 Arctic Tipping Points (ATP)**
Participant
Centro de Ciências do Mar do Algarve, University of Algarve, Portugal.
Coordinator: University of Tromsø, Norway
FP7-ENVIRONMENT, Grant agreement ID: 226248
- 2011 The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP)**
Participant
Marine Biological Association, United Kingdom.
The Gordon and Betty Moore foundation, GBMF Grants GBMF2637 and GBMF3111, Project MMETSP0160
- 2008 – 2011 Response of *Emiliania huxleyi* to a high CO₂ world: assessing the extent of genetic diversity in the pattern of gene expression.**
Participant
Department of Biological Sciences, University of Essex, UK.
NERC/SOFI-award, Project NE/F012411/1
- 2005 – 2007 Understanding Diatom Biology by Functional Genomics Approaches (DIATOMICS)**
Participant
Marine Biological Association, United Kingdom.
Coordinator: Stazione Zoologica Anton Dohrn, Italia
FP6-LIFESCIHEALTH, Grant agreement ID: 512035