Curriculum Vitae Chris Bowler

<u>Etat civil</u>
BOWLER Chris
Né en 1965

<u>Situation à l'Académie</u>
Elu Correspondant Associé en 2018
Section Sciences de la Vie

<u>Situation actuel</u>
Directeur de Réchérche (classe exceptionnelle) au CNRS
Chef d'Equipe 'Génomique des Plantes et des Algues' à l'Institut de Biologie de l'Ecole normale supérieure (IBENS), Paris
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<u>Formations</u>

1987 – 1990	PhD Laboratorium Genetika (Profs. M. Van Montagu et Dirk Inzé), Rijksuniversiteit Gent, Gand (Belgique). Titre de la thèse: A study of the role of superoxide dismutase in plants
1983 – 1986	University of Warwick, Coventry (GB) B.Sc. (Hons) en Microbiology and Microbial Technology

<u>Carrière</u>

2002 –	Directeur de Recherche, Classe Exceptionnelle au CNRS et Chef d'Equipe 'Génomique des Plantes et des Algues' à l'Institut de Biologie de l'Ecole normale supérieure (IBENS), Paris
1998 – 2002	'Primo Ricercatore' (Prof. Associé) Stazione Zoologica Anton Dohrn, Naples (Italie)
1994 – 1998	Marie Curie Fellow Stazione Zoologica Anton Dohrn, Naples (Italie)
1991 – 1993	Postdoc avec Prof. N.-H. Chua, Rockefeller University, New York (Etats Unis)

<u>Domaines d'expertise</u>
Photomorphogénèse chez les plantes, Génomique, Epigénomique, Biologie des microalgues

<u>Mots clés</u>
Arabidopsis, chromatine, diatomées, epigénomique, génomique, *Tara* Oceans, tomate

<u>Distinctions et prix</u>

2015	Grand Prix Scientifique de la Fondation Louis D (Institut de France)
2010	Medaille d'Argent du CNRS
1995	Nommé membre EMBO (European Molecular Biology Organization)

<u>Fonctions actuelles et récentes</u>
Directeur de Recherche, Classe Exceptionnelle au CNRS
Chef d'Equipe 'Génomique des Plantes et des Algues' à l'Institut de Biologie de l'Ecole normale supérieure (IBENS), Paris
Coordinateur Scientifique de *Tara* Oceans
Chef de la Section Ecologie et Biologie de l'Evolution à l'Institut de Biologie de l'Ecole normale supérieure (IBENS), Paris (2010-2016)

Grass Fellow, Radcliffe Institute for Advanced Study, Harvard University, Etats Unis (2016-2017)

Activités académique et professionnelles
Chef d'Equipe 'Génomique des Plantes et des Algues' à l'Institut de Biologie de l'Ecole normale supérieure (IBENS), Paris
Coordinateur Scientifique de *Tara* Oceans

Publications
Mustilli, A. C., Fenzi, F., Ciliento, R., Alfano, F. and Bowler, C. Phenotype of the tomato *high pigment-2* mutant is caused by a mutation in the tomato homolog of *DEETIOLATED1*. Plant Cell, 11, 145-158 (1999).

Davuluri, G. R., Van Tuinen, A., Fraser, P.D., Manfredonia, A., Newman, R., Burgess, D., Brummell, D.A., King, S.R., Palys, J., Uhlig, J., Bramley, P.M., Pennings, H. and Bowler, C. Fruit-specific RNAi-mediated suppression of DET1 enhances carotenoid and flavonoid content in tomatoes. Nature Biotechnol. 23: 890-895 (2005).

Bowler, C., et al. The Phaeodactylum genome reveals the evolutionary history of diatom genomes. Nature, 456: 239-244 (2008).

Moustafa, A., Beszteri, B., Maier, U. G., Bowler, C., Valentin, K. and Bhattacharya, D. Genomic footprints of a cryptic plastid endosymbiosis in diatoms. Science, 324: 1724-1726 (2009).

Allen, A. E., Dupont, C. L., Oborník, M., Horák, A., Nunes-Nesi, A., McCrow, J. P., Zheng, H., Johnson, D. A., Hu, H., Fernie, A. R. and Bowler, C. Evolution and metabolic significance of the urea cycle in photosynthetic diatoms. Nature 473: 203-207 (2011).

Morrissey, J., Sutak, R., Paz-Yepes, J., Atsuko, T., Moustafa, A., Veluchamy, A., Thomas, Y., Botebol, H., Bouget, F.-Y., McQuaid, J. B., Tirichine, L., Allen, A. E., Lesuisse, E. and Bowler, C. A novel protein, ubiquitous in marine phytoplankton, concentrates iron at the cell surface and facilitates ferric ion uptake. Curr. Biol. 25: 364-371 (2015).

Bourbousse, C., Mestiri, I., Zabulon, G., Bourge, M., Formiggini, F., Koini, M. A., Brown, S. C., Fransz, P., Bowler, C. and Barneche, F. Light signaling controls nuclear architecture reorganization during seedling establishment. Proc. Natl. Acad. Sci. USA. 112: E2836-44 (2015).

Bailleul, B., Berne, N., Murik, O., Petroutsos, D., Prihoda, J, Tanaka, A., Villanova, V., Bligny, R., Flori, S., Falconet, D., Krieger-Liszkay, A., Santabarbara, S., Rappaport, F., Joliot, P., Tirichine, L., Falkowski, P. G., Cardol, P., Bowler, C. and Finazzi, G. Energetic coupling between plastids and mitochondria drives CO2 assimilation in diatoms. Nature 524: 366-369 (2015).

Guidi, L., Chaffron, S., Bittner, L., Eveillard, D., Larhlimi, A., Roux, S., Darzi, Y., Audic, S., Berline, L., Brum, J. R., Coelho, L. P., Espinoza, J. C. I., Malviya, S., Sunagawa, S., Dimier, C., Kandels-Lewis, S., Picheral, M., Poulain, J., Searson, S., Tara Oceans Consortium Coordinators, Stemmann, L., Not, F., Hingamp, P., Speich, S., Follows, M., Karp-Boss, L., Boss, E., Ogata, H., Pesant, S., Weissenbach, J., Wincker, P., Acinas, S. G.,   Bork, P., de Vargas, C.,   Iudicone, D., Sullivan, M. B., Raes, R., Karsenti, E., Bowler, C. and Gorsky, G. Plankton networks driving carbon export in the oligotrophic ocean. Nature 532: 465-470 (2016).

Nassrallah, A., Rougée, M., Bourbousse, C., Drevensek, S., Fonseca, S., Iniesto, E., Ait-Mohammed, O., Deton-Cabanillas, A.-F., Zabulon, G., Ahmed, I., Stroebel, D., Masson, M., Lombard, B., Eeckhout, D.,

Loew, D., Genovesio, A., Breyton, C., de Jaeger, G., Bowler, C., Rubio, V. and Barneche, F. DET1-mediated degradation of a SAGA-like, deubiquitination module controls H2Bub homeostasis. eLife 7: e37892 (2018).

Activités editoriales
Membre du comité editoriale de Science (depuis 2013), EMBO Journal (depuis 2000), Marine Genomics (depuis 2009), Protist (depuis 2016), Scientific Data (2014-2018), EMBO reports (2002-2010), J. Phycology (2002-2014), Marine Biotechnology (2000-2012), Marine Ecology (2009-2012), Plant Cell (2005-2014), et Plant Journal (2000-2004).

Short Bio
Chris Bowler is Director of Research at CNRS and is Director of the Ecology and Evolutionary Biology Section of the Institut de Biologie de l'Ecole normale supérieure in Paris. He graduated from the University of Warwick, UK, with a degree in Microbiology and Microbial Technology, completed his PhD at the University of Ghent in Belgium with a thesis entitled Superoxide Dismutases and Stress Tolerance in Plants, and followed with postdoctoral studies with Nam-Hai Chua at The Rockefeller University in New York working on phytochrome signal transduction in plants. In 1994 he established his own research group working on signaling in higher plants and marine diatoms at the Stazione Zoologica in Naples Italy and in 2002 he took up his current position in Paris. He is EMBO member since 1995, recipient of the CNRS Silver Medal in 2010, an ERC Advanced Award in 2012, and the Louis D Foundation Grand Prix Scientifique from the Institut de France in 2015. His major research interest is in understanding the response of plants and marine diatoms to environmental signals. In plants he has demonstrated the importance of light sensing during tomato fruit ripening and how changes at the chromatin level establish photomorphogenic gene expression patterns in Arabidopsis seedlings. His contribution to plant research is further marked by the elucidation of the function of the global photomorphogenesis regulator DET1, which has been one of the most elusive plant proteins in spite of its very early discovery. In marine diatoms he established molecular tools to assess gene function and he has played a major role in coordinating the whole genome sequencing of several species. Using functional genomics he has revealed the cellular response of diatoms to nutrients such as iron and nitrogen, to different wavelengths of light, and to allelopathic infochemicals. He is scientific coordinator of the *Tara* Oceans project (http://www.embl.de/tara-oceans/start/), performing a worldwide analysis of plankton community diversity and function in the global ocean using high-throughput DNA sequencing and cellular imaging approaches. He was a Fellow of the Radcliffe Institute for Advanced Studies at Harvard University during the 2016-2017 academic year.