

CURRICULUM VITAE

Etat civil

- ROUX Christophe
- Né en 1965

Situation à l'Académie :

- Elu membre correspondant en 2023
- Section 6 Sciences de la Vie

Informations

Professeur de l'Université Toulouse III Paul Sabatier

Coordonnées

- LRSV, Chemin de Borde Rouge, 31326 Castanet-Tolosan
- Occitanie
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Formations

- 1988** DEA Biotechnologie Végétale, Université Paul Sabatier, Toulouse « *Spécificité des éliciteurs dans l'interaction de type race/cultivar Phytophthora parasitica var. nicotianae /Nicotiana tabacum* »
- 1989-1993** Doctorat ès Agrochimie, Université de Perpignan. « *Étude de l'acétolactate synthase (E.C. 4.1.3.18) extraite de végétaux : mécanismes de catalyse et inhibition par des pesticides* »
- 1993** Stage postdoctoral à Mitsubishi Petrochemical Ltd, Tsukuba Research Center (Japon). "Biosynthesis and gene regulation of branched chain amino acid metabolism on Actinomycetes"

Carrière

- 1993-2002** Maître de conférences à l'université de Toulouse III Paul Sabatier
2002-présent Professeur de l'université Toulouse III - Paul Sabatier

Domaines d'expertise

Interactions microbes-microbes et plante-microbe

Mots clés

Mycobiote des plantes ; champignons mutualistes et endophytes ; interactions microbe-microbe

Fonctions actuelles

Responsable de l'équipe Interactions Microbiennes dans la Rhizosphère et les Racines du Laboratoire de Recherche en Sciences Végétales (UMR 5546 CNRS UTIII INPT)
Co-responsable scientifique du laboratoire commun BioPlantProducts
Directeur de la Fédération de Recherche Agrobiosciences Interactions et Biodiversité (FR3450 CNRS UTIII)

Publications

- Malar CM., Krüger M, Krüger C, Wang Y, Stajich JE, Keller J, Chen ECH, Yildirim G., Villeneuve-Laroche M, **Roux C**, Delaux PM, Corradi N (2021) The genome of *Geosiphon pyriformis* reveals ancestral traits linked to the emergence of the arbuscular mycorrhizal symbiosis. *Current Biology* 31(7), 1570-1577, e412
- Reinhardt D, **Roux C**, Corradi N, Di Pietro A (2021) Lineage-specific genes and cryptic sex: parallels and differences between arbuscular mycorrhizal fungi and fungal pathogens. *Trends in Plant Science* 26(2), 111-123
- Morin E, Miyauchi S, San Clemente H, Chen ECH, Pelin A, de la Providencia I, Ndikumana S, Beaudet D, Hainaut M, Drula E, Kuo A, Tang N, Roy S, Viala J, Henrissat B, Grigoriev IV, Corradi N, **Roux C**, Martin FM (2019) Comparative genomics of *Rhizophagus irregularis*, *R. cerebriforme*, *R. diaphanus* and *Gigaspora rosea* highlights specific genetic features in Glomeromycotina. *New Phytologist* 222(3), 1584-1598
- Chen ECH, Morin E, Beaudet D, Noel J, Yildirim G, Ndikumana S, Charron P, St-Onge C, Giorgi J, Krüger M, Marton T, Ropars J, Grigoriev IV, Hainaut M, Henrissat B, **Roux C**, Martin F, Corradi N (2018) High intraspecific genome diversity in the model arbuscular mycorrhizal symbiont *Rhizophagus irregularis*. *New Phytologist* 220(4), 1161-1171
- Tang N, San Clemente H, Roy S, Bécard G, Zhao B, **Roux C** (2016) A survey of the gene repertoire of *Gigaspora rosea* unravels conserved features among glomeromycota for obligate biotrophy. *Frontiers in Microbiology* 7, Article number 233
- Tisserant E, Malbreil M, Kuo A, Kohler A, Symeonidi A, Balestrini R, Charron P, Duensing N, Frei Dit Frey N, Gianinazzi-Pearson V, Gilbert LB, Handa Y, Herr JR, Hijri M, Koul R, Kawaguchi M, Krajinski F, Lammers PJ, Masclaux G, Murat C, Morin E, Ndikumana S, Pagni M, Petitpierre D, Requena N, Rosikiewicz P, Riley R, Saito K, San Clemente H, Shapiro H, Van Tuinen D, Bécard G, Bonfante P, Paszkowski U, Shachar-Hill YY, Tuskan GA, Young PW, Sanders IR, Henrissat B, Rensing SA, Grigoriev IV, Corradi N, **Roux C**, Martin F (2013) Genome of an arbuscular mycorrhizal fungus provides insight into the oldest plant symbiosis. *Proceedings of the National Academy of Sciences of the United States of America* 110(50), 20117-20122
- Diagne-Leye G, Sare IC, Martinez Y, Fall-Ndiaye MA, Sabbagh SK, Ba AT, **Roux CP** (2013) The life cycle of the smut fungus *Moesziomyces penicillariae* is adapted to the short-cycle of the host, *Pennisetum glaucum*. *Fungal Biology* 117(5), 311-318
- Bouwmeester HJ, **Roux C**, Lopez-Raez J, Bécard G (2007) Rhizosphere communication of plants, parasitic plants and AM fungi. *Trends in Plant Science* 12(5), 224-230
- Paszkowski U, Kroken S, **Roux C**, Briggs SP (2002) Rice phosphate transporters include an evolutionarily divergent gene specifically activated in arbuscular mycorrhizal symbiosis. *Proceedings of the National Academy of Sciences of the United States of America* 99(20), 13324- 13329
- Roux C**, Séjalon-Delmas N, Martins M, Parguey-Leduc A, Dargent R, Bécard G (1999) Phylogenetic relationships between European and Chinese truffles based on parsimony and distance analysis of ITS sequences. *FEMS Microbiology* 180(2), 147-155

Short Bio

Graduated with a Ph.D. in Agrochemistry from the University of Perpignan, C Roux carried out his research on plant fungal interactions and then on plant symbiotic fungi. Appointed Professor at the University of Toulouse, he contributed to the characterisation of strigolactones, a new family of phytohormones involved in plant-fungus interactions. He is currently studying the mechanisms of symbiotic efficiency by associating these fungi with soil bacteria, which is a crucial issue in agriculture because it will make it possible to optimise plant nutrition and health while reducing the use of inputs (more particularly synthetic phosphate and nitrogen fertilisers).