

## CV - Dr Elisabeth JAMET

Born on 15 August 1959 in Tours (France)

Single

Three children

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### Present position

Research Director (DR1) at the French National Research Center (CNRS)

Group leader Cell wall proteins and Development (2007-2020), Dynamics and Evolution of Plant cell walls (2021-2025) – Plant Science Research Laboratory (LRSV), UMR5546 UPS (Paul Sabatier-Toulouse 3 University)/CNRS, 24 chemin de Borde Rouge, 31320 Auzeville Tolosane, France

### Higher education

Baccalauréat (1977)

Agricultural Engineer of *Institut National d'Agronomie* Paris-Grignon, INA-PG (1982)

Master degree in Molecular and Cellular Biology, Strasbourg Louis Pasteur University (ULP) (1982)

PhD degree, ULP Strasbourg (1985); Changes in protein synthesis in plants hypersensitive to a viral infection: a focus on tobacco pathogenesis-related proteins (PR-proteins).

Supervisor: Dr Bernard Fritig – IBMC-CNRS-Strasbourg

Research Habilitation, ULP Strasbourg (1993)

### CNRS positions

1986-1996: Researcher – IBMC-CNRS Strasbourg, then IBMP-CNRS Strasbourg

1988-1990: Sabbatical period at *Biozentrum* of the Basel University and at the *Institut für Molekularbiologie* of the Zürich University (Switzerland). Characterization of two genes involved in *Drosophila* embryogenesis – Prof Markus Noll

1996-2001: Research Director – IBMP-CNRS Strasbourg

since 2001: Research Director – LRSV, UMR 5546 UPS/CNRS Auzeville

### Collective responsibilities

Head of LRSV (2011-2015), UMR5546 UPS/CNRS, Auzeville, France

Member of the *Directoire* of the *Pôle Sciences de la Vie*, UPS Toulouse (2011-2015).

Member of the executive committee of the *Fédération de Recherche Agrobiosciences, Interactions et Biodiversité* (FR3450 CNRS/UPS, Toulouse) (2011-2015).

Member of the running committee of the MetaToul Metabolomic platform (GenoToul, Toulouse) (2011-2015).

Member of the executive committee of the TULIP LabEx (2011-2015).

Deputy member of the *Management committee* of the COST action FA1306 (*The quest for tolerant varieties: Phenotyping at plant and cellular level*) (2014-2018).

Member of section 66 of *Conseil National des Universités* (2015-2019).

Member of HDR committee, UPS Toulouse (2018-2020).

Member of *Collège de Biologie* of UPS (2018-2022).

### Creation of 2 web sites dedicated to structural and functional characterization of plant cell wall proteins (regular updates):

ProtAnnDB (2008) [www.polebio.lrsv.ups-tlse.fr/ProtAnnDB/](http://www.polebio.lrsv.ups-tlse.fr/ProtAnnDB/)

WallProtDB (2009) [www.polebio.lrsv.ups-tlse.fr/WallProtDB/](http://www.polebio.lrsv.ups-tlse.fr/WallProtDB/)

### Research contracts supported by the French National Research Agency (ANR)

TBDTOMIC (2009-2012) (leader of partner 2)

CELLWALL (2009-2012) (leader of partner 2)

WALLARRAY (2009), WALLARRAY2 (2010-2013) (contributor)

TULIP LabEx (2011-2019, 2020-2024) (co-PI of Central project dedicated to Plant cell walls)  
wallOmics IdEx project (2014-2016) (contributor)  
MicroWall (2019-2022) (contributor)  
STRESS-PEPT (2021-2025) (leader of partner 2)

**Organization of *Journées du Réseau Français des Parois*, 2008**, Boussens (France) (100 European participants)

**Organization of the French Green Proteome Day, 2011**, Auzeville, France (50 French participants, supported by IBISA)

**Organization of the international mixOmics Summer school, 2016**, Auzeville, France (34 international participants) in the frame of **COST FA1306** (*The quest for tolerant varieties: Phenotyping at plant and cellular level*)

**Member of the Scientific Committee of the *Journées du Réseau Français des Parois*, 2017**, Orléans (100 French-speaking participants)

**Co-organization of the French Green Proteome days, 2018, 2019, Paris**

### Teaching

**Permanent education CNRS DR10 – Strasbourg**: Molecular biology techniques (**1994-2000**). Organization of 7 teaching periods with courses and practical work.

**Masters at UPS (since 2002)**: Courses related to Bioinformatics, Cell wall proteomics, Post-translational modifications of cell wall proteins, Cell walls for bioethanol production. Member of the pedagogical committee of the Plant Bioscience Master.

**Course on ethics and scientific integrity (since 2019)**: Toulouse Federal University.

### Supervision of 15 Master students and 10 PhD students

#### Evaluation of research projects and Reviewing of articles

Institut National de la Recherche Agronomique (INRA/INRAE), France (2005, 2006, 2009, 2010, 2015, 2019, 2020)

Agence Nationale pour la Recherche (ANR), France (2005, 2006, 2008, 2015)

Slovak Research and Development Agency, Slovakia (2008)

Austrian Science Fund, Austria (2010, 2013, 2014, 2016, 2017)

National Science Foundation (USA) (2011)

Fonds National de la Recherche Luxembourg (2012, 2013, 2014, 2015, 2017, 2018, 2020)

FWO Belgium (2014)

COFECUB (2017)

Baker Fund (USA) (2017)

Swiss National Science Foundation (2019)

Czech Science Foundation (2020)

Reviewings of articles: *Amino Acids*, *BMC Plant Biology*, *Cells*, *Frontiers in Plant Science*, *Journal of Experimental Botany*, *International Journal of Molecular Science*, *Journal of Proteomics*, *Molecular and Cellular Proteomics*, *New Phytologist*, *Plant and Cell Physiology*, *Plant Molecular Biology*, *Planta*, *Phytochemistry*, *Plant Physiology*, *Proteomic*, *Scientific Reports*, *The Cell Surface*, *The Plant Journal*, *The Plant Cell*...

#### Evaluation of laboratories

AERES/HCERES (French Agency for Research Evaluation) (2010, 2011, 2019)

Picardie-Jules Verne University (France) (2015)

#### Editorial responsibilities

Associate Editor at *Frontiers in Plant Science* (Plant Physiology)

Review Editor at *Frontiers in Plant Science* (Proteomics)

Editor of *International Journal of Molecular Science* (Cell wall biology)

Co-Guest editor of a *Frontiers in Plant Science* Special Topic devoted to Plant Glycobiology – A sweet world of lectins, glycoproteins, glycolipids and glycans ([www.frontiersin.org/research-topics/2325/plant-glycobiology---a-sweet-world-of-lectins-glycoproteins-glycolipids-and-glycans](http://www.frontiersin.org/research-topics/2325/plant-glycobiology---a-sweet-world-of-lectins-glycoproteins-glycolipids-and-glycans)) (2016, 14 contributions)

Co-Guest Editor of the 2017 Proteomes Special Issue devoted to Plant Proteomics ([www.mdpi.com/journal/proteomes/special\\_issues/plant\\_proteomics](http://www.mdpi.com/journal/proteomes/special_issues/plant_proteomics)) (10 contributions)

Co-Guest Editor of the 2018 International Journal of Molecular Sciences Special Issue devoted to Plant Cell Wall Proteins and Development ([www.mdpi.com/journal/ijms/special\\_issues/plant\\_cell\\_wall](http://www.mdpi.com/journal/ijms/special_issues/plant_cell_wall)) (19 contributions)

Co-Guest editor of a *Frontiers in Plant Science* Special Topic devoted to Co-evolution of Plant cell wall polymers ([www.frontiersin.org/research-topics/8370/co-evolution-of-plant-cell-wall-polymers](http://www.frontiersin.org/research-topics/8370/co-evolution-of-plant-cell-wall-polymers)) (2019) (10 published articles)

Co-guest editor of a *Cells* Special Issue devoted to Research on Plant cell wall Biology ([https://www.mdpi.com/journal/cells/special\\_issues/cell\\_walls](https://www.mdpi.com/journal/cells/special_issues/cell_walls)) (2020) (4 published articles, submission still open)

**Co-author of 82 articles** in international peer-reviewed journals, **10 book chapters** and **142 oral communications or posters** in national or international conferences. (**4445 citations, h index 37, i10-index 69** [Google Scholar], January 2020)

1. Nguyen-Kim H, San Clemente H, Laimer J, Lackner P, Gadermaier G, Dunand C, **Jamet E** (2020) The cell wall PAC (Pro-rich, Arabinogalactan proteins, conserved Cysteines) domain-proteins are conserved in the green lineage. *Int J Mol Sci* 21: 2488
2. Duruflé H, Ranocha P, Balliau T, Zivy M, Albenne C, Burlat V, Déjean S, **Jamet E**, Dunand C (2020) An integrative study showing the adaptation to sub-optimal growth conditions of natural populations of *Arabidopsis thaliana*: a focus on cell wall changes. *Cells* 9: 2249
3. Duruflé H, Selmani M, Ranocha P, **Jamet E**, Dunand C, Déjean S (2020) A powerful framework for an integrative study with heterogeneous omics data: from univariate statistics to multi-block analysis. *Brief Bioinformatics* bbaa166
4. Berthold F, Roujol D, Hemmer C, Jamet E, Ritzenthaler C, Hoffmann L, Schmitt-Keichinger C (2019) Inside or outside? A new collection of Gateway vectors allowing plant protein subcellular localization or over-expression. *Plasmid* 105: 102436
5. H. Duruflé, V. Hervé, T. Balliau, M. Zivy, C. Dunand, E. **Jamet** (2017) Proline hydroxylation in cell wall proteins: is it yet possible to define rules? *Front. Plant Sci.* 8: 1802.
6. H. Canut, C. Albenne, E. **Jamet** (2016) Post-translational modifications of plant cell wall proteins and peptides: A survey from a proteomics point of view. *Biochim. Biophys. Acta* 1864: 983-990.
7. H. Nguyen-Kim, H. San Clemente, T. Balliau, M. Zivy, C. Dunand, C. Albenne, E. **Jamet** (2016) *Arabidopsis thaliana* root cell wall proteomics: Increasing the proteome coverage using a combinatorial peptide ligand library and description of unexpected Hyp in peroxidase amino acid sequences. *Proteomics* 16: 491-503.
8. H. San Clemente, **E. Jamet** (2015) *WallProtDB*, a database resource for plant cell wall proteomics. *Plant Methods* 11: 2.
9. S. Dupouiron, C. Zischek, L. Ligat, J. Carbonne, A. Boulanger, T. Dugé de Bernonville, M. Lautier, P. Rival, M. Arlat, **E. Jamet**, E. Lauber, C. Albenne (2015) The *N*-glycan cluster from *Xanthomonas campestris* pv. *Campestris*: a toolbox for sequential plant *N*-glycan processing. *J. Biol. Chem.* 290: 6022-6036
10. M. Hijazi, D. Roujol, H. Nguyen-Kim, L. del Rocio Cisneros Castillo, E. Saland, **E. Jamet**, C. Albenne (2014) Arabinogalactan protein 31 (AGP31), a putative network-forming protein in *Arabidopsis thaliana* cell walls? *Ann. Bot.* 114: 1087-1097.
11. M. Hijazi, M.S. Velasquez, **E. Jamet**, J.M. Estevez, C. Albenne (2014) An update on post-translational modifications of hydroxyproline-rich glycoproteins: Towards a model highlighting their contribution to plant cell wall architecture. *Front. Plant Sci.* 5: 395.
12. C. Albenne, H. Canut, **E. Jamet** (2013) Plant cell wall proteomics: the leadership of *Arabidopsis thaliana*. *Front Plant Sci* 4: 111.
13. T. Douché, H. San Clemente, V. Burlat, D. Roujol, B. Valot, M. Zivy, R. Pont-Lezica, **E. Jamet** (2013) *Brachypodium distachyon* as a model plant towards improved biofuel crops: Search for secreted proteins involved in biogenesis and disassembly of cell wall polymers. *Proteomics* 13: 2438-2454
14. M. Hijazi, J. Durand, C. Pichereaux, F. Pont, **E. Jamet**, C. Albenne (2012) Characterization of the Arabinogalactan Protein 31 (AGP31) of *Arabidopsis thaliana*: new advances on the Hyp-O-glycosylation of the Pro-rich domain. *J. Biol. Chem.* 287: 9623-9632.
15. A. Vázquez-Lobo, D. Roujol, E. Zuñiga-Sánchez, C. Albenne, D. Piñero, A. Gamboa de Buen, **E. Jamet** (2012) The highly conserved spermatophyte cell wall DUF642 protein family: phylogeny and first evidence of interaction with cell wall polysaccharides in vitro. *Mol. Phylogenet. Evol.* 63: 510-520.

16. L. Ligat, E. Lauber, C. Albenne, H. San Clemente, B. Valot, M. Zivy, R. Pont-Lezica, M. Arlat, **E. Jamet** (2011) Analysis of the xylem sap proteome of *Brassica oleracea* reveals a high content in secreted proteins. *Proteomics (Special Issue Plant Proteomics)* 11: 1798-1813.
17. Y. Zhang, A. Giboulot, M. Zivy, B. Valot, **E. Jamet**, C. Albenne (2011) Combining various strategies to increase the coverage of the plant cell wall glycoproteome. *Phytochemistry (Proteomics Special Issue)* 11: 1798-1813.
18. M. Irshad, H. Canut, G. Borderies, R. Pont-Lezica, **E. Jamet** (2008) A new picture of cell wall protein dynamics in elongating cells of *Arabidopsis thaliana*: Confirmed actors and newcomers. *BMC Plant Biol.* 8: 94.
19. **E. Jamet**, C. Albenne, G. Boudart, M. Irshad, H. Canut, R. Pont-Lezica (2008) Recent advances in plant cell wall proteomics. *Proteomics* 8: 893-908.
20. **E. Jamet**, H. Canut, G. Boudart, R. Pont-Lezica (2006) Cell wall proteins: a new insight through proteomics. *Trends Plant Sci.* 11: 33-39.
21. G. Boudart, **E. Jamet**, M. Rossignol, C. Lafitte, G. Borderies, A. Jauneau, M.-T. Esquerré-Tugayé, R. Pont-Lezica (2005). Cell wall proteins in apoplastic fluids of *Arabidopsis thaliana* rosettes: identification by mass spectrometry and bioinformatics. *Proteomics* 5: 212-221.
22. G. Borderies, **E. Jamet**, C. Lafitte, M. Rossignol, A. Jauneau, G. Boudart, B. Montsarrat, M.-T. Esquerré-Tugayé, A. Boudet, R. Pont-Lezica (2003). Proteomics of loosely bound cell wall proteins of *Arabidopsis thaliana* cell suspension cultures: A critical analysis. *Electrophoresis* 24: 3421-3432.
23. A. de Marco, P. Guzzardi, **E. Jamet** (1999). Isolation of tobacco isoperoxidases accumulated in cell suspension culture medium and characterization of activities related to cell wall metabolism. *Plant Physiol.* 120: 371-382.
24. C. Hirsinger, I. Salvà, J. Marbach, A. Durr, J. Fleck, **E. Jamet** (1999). The tobacco extensin gene *Ext 1.4* is expressed in cells submitted to mechanical constraints and in cells proliferating under hormone control. *J. Exp. Bot.* 50: 343-355.
25. Y. Parmentier, A. Durr, J. Marbach, C. Hirsinger, M.C. Criqui, J. Fleck, **E. Jamet** (1995). A novel wound-inducible extensin gene is expressed early in newly-isolated protoplasts of *Nicotiana sylvestris*. *Plant Mol. Biol.* 29: 279-292.
26. P. Genschik, **E. Jamet**, G. Philipps, Y. Parmentier, C. Gigot, J. Fleck (1994). Molecular characterization of a  $\beta$ -type proteasome subunit from *Arabidopsis thaliana* co-expressed at a high level with an  $\alpha$ -type proteasome subunit early in the cell cycle. *Plant J.* 6: 537-546.
27. M.C. Criqui, B. Plesse, A. Durr, J. Marbach, Y. Parmentier, **E. Jamet**, J. Fleck (1992). Characterization of genes expressed in mesophyll protoplasts of *Nicotiana sylvestris* before the re-initiation of the DNA replicational activity. *Mech. Dev.* 38: 121-132.
28. C. Dambly-Chaudière, **E. Jamet**, M. Burri, D. Bopp, K. Basler, E. Hafen, N. Dumont, P. Spielmann, A. Ghysen, M. Noll (1992). The paired-box gene *pox neuro*: a determinant of poly-innervated sense organs in *Drosophila*. *Cell* 69: 159-172.
29. D. Bopp, **E. Jamet**, S. Baumgartner, M. Burri, M. Noll. (1989). Isolation of two tissue-specific *Drosophila* paired-box genes, *Pox meso* and *Pox neuro*. *EMBO J.* 8: 3447-3457.
30. **E. Jamet**, B. Fritig (1986). Purification and characterization of 8 of the pathogenesis-related proteins in tobacco leaves reacting hypersensitively to tobacco mosaic virus. *Plant Mol. Biol.* 6: 69-80.