Obituary: Rafael Pont-Lezica (1940–2011)

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Rafael Pont-Lezica, Plant Physiology, Biochemistry, and Biotechnology Emeritus Professor at the Université de Toulouse, passed away on September 26, 2011 after losing his fight with cancer. He had studied agronomy at the Universidad Nacional de Cuyo, in Argentina, and in 1978 earned a Ph. D. at the Université de Gembloux, Belgium.

Rafael began his scientific career as a Research Assistant in Plant Physiology at the Universidad Nacional de Cuyo (1966–1971), where his work was centered on plant morphogenesis and secondary metabolism. He then became Assistant Professor in Biology at the Fundación Bariloche, in Argentina (1972–1977), where he developed an interest in sugar metabolism, particularly in the synthesis of cellulose precursors and protein glycosylation.

He obtained a Humboldt Stiftung Fellowship in Dr. Heinrich Kaus’ lab in Kaiserslautern, West Germany (1978–1979) and from 1979 to 1988 he was a Professor at the Universidad Nacional de Mar del Plata, in Argentina, where he co-founded, with Dr. Horacio Pontis, the Instituto de Investigaciones Biológicas. His main research topics there were on lectin biosynthesis and protein glycosylation. In the course of his first collaboration with Joe Varner, from Washington University in St. Louis, MO, USA, he focused his attention on the study of the plant cell wall. As a consequence he was invited as a visiting professor at Washington University in St. Louis, MO, USA (1987–1991). A crucial result of this fruitful collaboration was the development of the tissue printing technique, which became an alternative to in situ hybridization and immunocytochemistry.

In 1992, Rafael obtained a professorship at the Université de Toulouse and set up his own research group. Following his retirement in 2009, he became Emeritus Professor at the Université de Toulouse. As such he kept up an intense research activity, interacting with his former team, today called Cell Wall Proteins and Development, in reference to his mentorship. Rafael’s main research interest was the identification of Arabidopsis thaliana RGD-containing or integrin-like proteins involved in cell wall/plasma membrane contacts. He also began to work on plant cell wall proteomics. He presented the first overview of cell wall proteins and identified proteins that had never been described before. His most recent contribution was the setting up of two international research programs, introducing Brachypodium distachyon as a model plant for biomass production in our lab: European Knowledge-Based Bio-Economy (KBBE) and Comité Français d’Évaluation de la Coopération Universitaire et Scientifique avec le Brésil (COFECUB). All these developments led to new insights in plant cell wall biology.

At the Université de Toulouse, Rafael directed the Plant Science Master’s Program (1999–2004) and the European Marie Curie Training Program SIGNAL (Plant Signaling and Biotechnology; 2001–2005). He was a member of numerous scientific groups and councils at the local, national, and international levels [the Fundación Bariloche, the Universidad Nacional de Mar del Plata, the Universidad de Toulouse, the Ecole Doctorale de Biologie in Toulouse, the Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) in Argentina, among others]. Although he developed his career in many different universities and countries, he stayed in touch with the colleagues with whom he had worked.

Rafael was an appreciated teacher, always encouraging graduate students, postdocs, and young colleagues in the lab. His sound judgment and numerous personal qualities were appreciated and called upon by his colleagues and collaborators. As a researcher and a human being, he was enthusiastic and creative, communicating his drive and love of life to those around him.

SELECTED BIBLIOGRAPHY

Albenne, C., Canut, H., Boudart, G., Zhang, Y., San Clemente, H., and Jamet, E. (2009). Plant cell wall proteomics: mass spectrometry data, a trove for research on protein structure/function relationships. Mol Plant 2, 977–989.

Boudart, G., Jamet, E., Rossignol, M., Lafitte, C., Borderies, G., Jauneeau, A., and Esquerré-Tugayé, M.-T. (2005). Cell wall proteins in apoplastic fluids of Arabidopsis thaliana rosettes: identification by mass spectrometry and bioinformatics. Proteomics 5, 212–221.

Canut, H., Carrasco, A., Galaud, J. P., Lacaze, C., Boussoh, H., Vita, N., and Ferrara, P. (1998). High-affinity RGD-binding sites at the plasma membrane of Arabidopsis thaliana links the cell wall. Plant J. 16, 63–71.

Dankert, M.A. (1976). Membrane-bound UDP-glucose: lipid glucosyl transferases from peas. Plant Physiol. 58, 675–680.

Dey, P.M., and del Campillo, E.M. (1983). Characterization of a glycoprotein galactosidase from lentil seeds (Lens culinaris). J. Biol. Chem. 258, 923–929.

Hopp, G. R., Daleo, H. E., and Romero, P. A. (1978). Biosynthesis of dolichol phosphate. Characterization and site of synthesis in algae. Plant Physiol. 61, 248–251.

Irshad, M., Canut, H., Borderies, G., and Jamet, E. (2008). A new picture of cell wall protein dynamics in elongating cells of Arabidopsis thaliana: confirmed actors and newcomers. BMC Plant Biol. 8, 94. doi: 10.1186/1471-2229-8-94.

Jamet, E., Albenne, C., Boudart, G., Irshad, M., and Canut, H. (2008). Recent advances in plant cell wall proteomics. Proteomics 8, 893–908.

Jamet, E., Canut, H., and Boudart, G. (2006). Cell wall proteins: a new insight through proteomics. Trends Plant Sci. 11, 33–39.

Jamet, E., Roujol, D., San-Clemente, H., Irshad, M., Soubigou-Taconnat, L., and Renou, J.-P. (2009). Cell wall biogenesis of Arabidopsis thaliana elongating cells: transcriptomics comple-
ments proteomics. *BMC Genomics* 10, 505. doi: 10.1186/1471-2164-10-505.

Lezica, R. P. (1979). Glycosylation of glycoproteins in green plants and algae. *Biochem. Soc. Trans.* 7, 334–337.

Ligat, L., Lauber, E., Albenne, C., San Clemente, H., Valot, B., Zivy, M., Arlat, M., and Jamet, E. (2011). Analysis of the xylem sap proteome of *Brassica oleracea* reveals a high content in secreted proteins. *Proteomics* 11, 1798–1813.

MacNally, J. G., and Pickard, B. G. (1993). Wall-to-membrane linkers in onion epidermis: some hypotheses. *Plant Cell Environ.* 16, 111–123.

Reuzeau, C. (1995). Comparing plant and animal extracellular matrix-cytoskeleton connections – are they alike? *Protoplasma* 188, 113–121.

Romero, P. A., and Hopp, H. E. (1978). Glucosylation of membrane-bound proteins by lipid-linked glucose. *Planta* 140, 177–183.

Varner, J. E. (1989). Histochemical localization of cysteine-rich proteins by tissue printing on nitrocellulose. *Anal. Biochem.* 182, 334–337.

Varner, J. E., Taylor, R., Cassab, G. I., Lin, J. J., Lin, L. S., and Yuen, H. (1988). Cell wall assembly and architecture. *Curr. Topics Plant Biochem. Physiol.* 7, 134–139.

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