

Recent Publications (Last 5 years):

2020

Palacio-Lopez, K., Sun, L., Reed, R., Kang, E., Sorensen, I., Rose, J.K.C. and **Domozych, D.S.** (2020) Experimental Manipulation of Pectin Architecture in the Cell Wall of the Unicellular Charophyte, *Penium Margaritaceum*. *Frontiers in Plant Science* <https://doi.org/10.3389/fpls.2020.01032>

Domozych, D.S., Ritter, E., Lietz, A., Tinaz, B. and Raimundo, S. (2020) Protoplast Isolation and Manipulation in the Unicellular Model Plant *Penium margaritaceum*. In: *The Plant Cell Wall. Methods in Molecular Biology* (ed. Z. Popper). 2149: 111-124.

Tierney, M.L., Sun, L and **Domozych, D.S.** (2020) Rapid Assessment of Cell Wall Polymer Distribution and Surface Topology of Arabidopsis Seedlings. In: *The Plant Cell Wall. Methods in Molecular Biology* (ed. Z. Popper). 2149: 315-325.

Domozych, D.S., Ritter, E., Lietz, A., Tinaz, B. and Raimundo, S. (2020) Protoplast Isolation and Manipulation in the Unicellular Model Plant *Penium margaritaceum*. In: *The Plant Cell Wall. Methods in Molecular Biology* (ed. Z. Popper). 2149: 111-124.

Domozych, D.S., Sun, L., Palacio-Lopez, K., Reed, R., Jeon, S., Li, M., Jiao, C., Sørensen, I., Fei, Z. and Rose, J.K.C. (2020) Endomembrane architecture and dynamics during secretion of the extracellular matrix of the unicellular charophyte, *Penium margaritaceum*, *Journal of Experimental Botany* 71: 3323-3339 <https://doi.org/10.1093/jxb/eraa039>

Jiao, C., Sørensen, I., Sun, X., Behar, H., Alseekh, S., Philippe, G., Fernie, A.R., Brumer, H., **Domozych, D.S.**, Fei, Z. and Rose, J.K.C. (2020) The Genome of the Charophyte Alga *Penium margaritaceum* Bears Footprints of Terrestrialization and Preludes the Evolutionary Origins of Land Plants, *Cell* 181: 1-15, <https://doi.org/10.1016/j.cell.2020.04.019>

Philippe, G., Sørensen, I., Jiao, C., Sun, X., Fei, Z., **Domozych, D.S.** and Rose, J.K.C. (2020) Cutin and suberin: assembly and origins of specialized lipidic cell wall scaffolds. *Current Opinion in Plant Biology* 55: 11-20. <https://doi.org/10.1016/j.pbi.2020.01.008>

2019

Palacio-Lopez, K., Tinaz, B., Holzinger, A. and **Domozych, D.S.** (2019) Arabinogalactan Proteins and the Extracellular Matrix of Charophytes: A Sticky Business. *Frontiers in Plant Science* <https://doi.org/10.3389/fpls.2019.00447>

Rodriguez-Furlan, C., **Domozych, D.**, Qian, W., Enquist, P.A., Li, X., Zhang, C., Schenk, R., Saulsbery Winbigler, H., Jackson, W., Raikhel, N.V. and Hicks, G.R. (2019) Interaction between VPS35 and RABG3f is necessary as a checkpoint to control fusion of late compartments with the vacuole. *Proceedings of the National Academy of Sciences* 116: 21291-21301. <https://doi.org/10.1073/pnas.1905321116>

Wilkop, T., Pattathil, S., Ren, G., Davis, D.J., Bao, W., Duan, D., Peralta, A.G., **Domozych, D.S.**, Hahn, M.J. and Drakakaki, G. (2019) A Hybrid Approach Enabling Large-Scale Glycomic Analysis of Post-Golgi Vesicles Reveals a Transport Route for Polysaccharides. *Plant Physiology* 31: 627-641. <https://doi.org/10.1105/tpc.18.00854>.

Rosquette, M.R., Worden, N., Ren, G., Sinclair, R.M., Pflieger S., Salemi, M., Phinney, B.S., **Domozych, D.**, Wilkop, T. Drakakaki, G. (2019) AtTRAPPC11/ROG2: A Role for TRAPPs in Maintenance of the Plant *Trans*-Golgi Network/Early Endosome Organization and Function. *Plant Cell* 31: 1879-1898. <https://doi.org/10.1105/tpc.19.00110>

2018

Shinozaki, Y., Nichols, P., Fernandez-Pozo, N., Ma, Q., Evanich, D.J., Shi, Y., Xu, Y., Zheng, Y., Snyder, S.I., Martin, L.B.B., Ruiz-May, E., Thannhauser, T.W., Chen, K., **Domozych, D.S.**, Catalá, C., Fei, Z., Mueller, L., Giovannoni, J.J. and Rose, J.K.C. (2018) High-resolution spatiotemporal transcriptome mapping of tomato fruit development and ripening. *Nature Communications* 9: 364. <https://doi.org/10.1038/s41467-017-02782-9>

Raimundo, S.C., Sørensen, I., Tinaz, B., Ritter, E., Rose, J.K.C., and **Domozych, D.S.** (2018) Protoplast isolation and manipulation of protoplasts from the unicellular green alga *Penium margaritaceum*. *Plant Methods* 14: 18. <https://doi.org/10.1186/s13007-018-0284-9>

2017

Martin, L.B.B., Romero, P., Fich, E.A., **Domozych, D.S.**, and Rose, J.K.C. (2017) Cuticle Biosynthesis in Tomato Leaves is Developmentally Regulated by Abscisic Acid. *Plant Physiology* 174: 1384-1398. <https://doi.org/10.1104/pp.17.00387>

Mravec, J., Kračun, S.K., Rydahl, M.G., Westereng, B., Pontiggia, D., De Lorenzo, G., **Domozych, D. S.** and Willats, W.G.T. (2017) An oligogalacturonide-derived molecular probe demonstrates the dynamics of calcium-mediated pectin complexation in cell walls of tip-growing structures. *The Plant Journal* 91: 534-546. <https://doi.org/10.1111/tpj.13574>

Mravec, J., Guo, X., Hansen, A.R., Schückel, J., Kračun, S.K., Mikkelsen, M.D., Mouille, G., Johansen, E., Ulvskov, P., **Domozych, D.S.**, and Willats, W.G.T. (2017) Pea Border

Cell Maturation and Release Involve Complex Cell Wall Structural Dynamics. *Plant Physiology* 174: 1051-1066. <https://doi.org/10.1104/pp.16.00097>

Tafolla-Arellano, J.C., Zheng, Y., Sun, H., Jiao, C., Ruiz-May, E., Hernández-Oñate, M.A., González-León, A., Báez-Sañudo, R., Fei, Z., **Domozych, D.**, Rose, J.K.C., and Tiznado-Hernández, M.E. (2017) Transcriptome Analysis of Mango (*Mangifera indica* L.) Fruit Epidermal Peel to Identify Putative Cuticle-Associated Genes. *Scientific Reports* 7: 46163.

Ulusik, S., Chapman, N.H., Smith, R., Poole, M., Adams, G., Gillis, R.B., Besong, T.M.D., Sheldon, J., Stiegelmeyer, S., Perez, L., Samsulrizal, N., Wang, D., Fisk, I.D., Yang, N., Baxter, C., Rickett, D., Fray, R., Blanco-Ulate, B., Powell, A.L.T., Harding, S.E., Craigon, J., Rose, J.K.C., Fich, E.A., Sun, L., **Domozych, D.S.**, Fraser, P.D., Tucker, G.A., Grierson, D., and Seymour, G.B. (2016) Genetic improvement of tomato by targeted control of fruit softening. *Nature Biotechnology* 34: 950-952. <https://doi.org/10.1038/nbt.3602>.

A complete list of publications is available at....

Recent grants received

NSF MRI 1828508: Acquisition of a Field Emission Scanning Electron Microscope and Energy Dispersive Spectrometry Attachment for High Resolution Imaging at Skidmore College; 10/01/2018- 9/30/2022; \$621,026

NSF MCB 1517345: Collaborative Research: Invasion of land: Using model charophyte *Penium margaritaceum* to elucidate subcellular responses to stress that were key in the evolution of land plants. 07/15/2015-03/15/2019; \$382,669.

NSF MRI 1337280: Acquisition of a confocal laser scanning microscope for research in the life sciences at Skidmore College; 09/01/2013-08/31/2016; \$478,730.00.

NSF MCB 1009978: The cell biology of pectin dynamics in the Charophycean Green Algae: Homogalacturonan secretion in the model organism, *Penium margaritaceum*; 02/10/2010-09/30/2012; \$232,000.

NSF MRI 0922805: MRI: Acquisition of a Libra 120 transmission electron microscope for research enhancement at Skidmore College. 01/01/2010- 12/31/2013; \$721,046.00.

NSF MRI 0959476: MRI-R2: From Molecules to Ecosystems: Establishment of the Skidmore Analytical Interdisciplinary Laboratory (SAIL); 01/01/2010- 12/31/2014; \$557,755.00.